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# Green Human Resource Management as a Tool for the Sustainable Development of Enterprises: Polish Young Company Experience

Edyta Bombiak \*  and Anna Marciniuk-Kluska

Faculty of Economic and Legal Sciences, Siedlce University of Natural Sciences and Humanities, Konarskiego 2, 08-110 Siedlce, Poland; anna.marciniuk-kluska@uph.edu.pl

\* Correspondence: edyta.bombiak@uph.edu.pl; Tel.: +48-025-643-17-09

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**Abstract:** The growing role of sustainable development and, above all, its ecological aspect, in the development of modern company competitive edge leads to the popularization of the question of incorporating environmental practices into the area of human resource policy, referred to as Green HRM. The objective of the research was to identify pro-environmental HR practices embraced by young Polish enterprises and to prioritize them in accordance with their effect on company sustainable development. To attain these goals, a survey was conducted among a random, representative population of 150 young enterprises. The study revealed that the Green HRM concept in the Polish reality is relatively. However, there is a strong positive correlation between the evaluation of the impact of individual activities within Green HRM on sustainable company development and their practical implementation. Research demonstrated that the higher the evaluation of the impact of a given activity, the more frequent its implementation in the studied companies. This allowed the formulation of the following conclusion: in order to increase the scope of the implementation of the Green HRM concept in Polish young enterprises, it is necessary to raise awareness and disseminate knowledge concerning the impact Green HRM can have on sustainable development in organizations.

**Keywords:** green human resource management; sustainability development; young companies

## 1. Introduction

Progressive degradation of the natural environment due to human exploitation brought about the need to introduce the concept of sustainable development. Thereby, the natural environment and resource protection for the benefit of future generations have become global imperatives [1–3]. This emphasized the necessity to redefine the operating strategy of contemporary enterprises. The sustainable development paradigm not only deals with the attainment of economic goals but also the necessity to heed broadly understood social and ecological interests, laying foundations on which a sustainable business model based on the principles of value- and social responsibility-oriented management can be built [4].

Sustainable development is a concept responding to the global challenges related to human activity in both developed and developing countries. This new concept of civilizational development is the outcome of the need to mitigate and prevent the adverse effects of the economic development. It is a modern direction of the economic development, emphasising the introduction of the new methods of organisation and management, both on the national level and the levels of various economic entities, as well as on the replacement of the cumbersome technologies with the “environmentally-friendly” ones [5]. According to the World Commission on Environment and Development, sustainable development satisfies the needs of the present generation without jeopardising the ability of future

generations to satisfy theirs [6]. Such development is intelligent, environmentally-friendly, based on the effective use of resources, knowledge and innovation [7].

There are three basic dimensions of sustainable development [8]:

- ecological (protection of the environment and its natural resources),
- economic (economic development that is not hindered, but stimulated by technological advancement and increased effectiveness in the use of resources, materials and workforce),
- social (improvement in the living conditions and safety of all people).

The concept of sustainable development is based on the so-called triple bottom Line [1,9]. Pursuant to the principles of sustainable development, the social, economic and environmental objectives are interdependent and mutually reinforcing [10]. Thus, the development strategy of the company should take into account the development of a balance between the economic, environmental and social dimensions of economic activity. This means the supported economic solutions should be socially responsible, environmentally friendly and economically valuable at the same time [11]. It has been emphasised that a sustainable enterprise fosters sustainable development simultaneously offering the economic, social and environmental benefits.

Theories of sustainable development have evolved over many years, however, there are still many controversies over the too narrow approach to this concept, perceiving it only in terms of environmental protection, as well as poor recognition on the microeconomic level, i.e., level of the organisation [12]. Moreover, sustainability issues involve complex interactions between social, economic and environmental factors, often perceived quite differently by different interest groups [13]. Different models, approaches and concepts presented in literature make the idea of sustainability ambiguous and difficult to interpret. On the one hand, it mentions ensuring business sustainability, and, on the other hand, a multidimensional look at the organization considering the interests of various groups of stakeholders [14]. Numerous studies prove that corporate sustainability management focused on creating a harmonious relationship with various stakeholders brings a number of benefits to the organisation [15]. Among other things, the positive impact of socially responsible activities on the company's efficiency has been indicated [16]. The literature, however, also gives examples of the unequivocal impact of social and environmental attitudes on a company's financial performance, based on cases where such an approach has not affected its economic success [17]. Despite these inconsistencies, a growing interest in the concept of sustainable development has been observed. More and more companies worldwide are implementing the principles of sustainable development in their business operations [15]. The factors stimulating social and environmental actions taken by enterprises include [18,19]:

- changes in the expectations of the stakeholders related to the increased level of their awareness,
- changes in the technological environment providing opportunities to implement innovations in the way the organisation operates and the products and services it offers;
- institutional and legal conditions defining the desired directions and framework for the development of the economy and its particular entities,
- searching for new sources with a competitive edge.

The companies must take up the challenge of implementing the principles of sustainable development in such circumstances. This concept is motivation to undertake action aimed at increasing the welfare of the groups, regions and whole societies [20]. The goal of sustainable development is to improve the living standard of people, at the same time improving the access to natural resources and ecosystems for future generations [21]. Sustainable development is about the economic, social and environmental goals common to all people [10].

The resulting necessity to maintain symbiosis on the enterprise-society-environment axis means that entrepreneurs are increasingly guided by the principles of corporate social responsibility (CSR) in a decision-making process. Socially-responsible business is a strategic and long-term approach based

on the principles of social dialogue and search for the solutions beneficial to all the stakeholders [11]. It is a concept of conducting business activity that balances the profit and the needs of different groups of stakeholders [22,23]. The concept is reflected by the voluntary inclusion of the expectations of equal stakeholder groups into the company's strategy, which generates not only economic, but also social effects.

CSR concentrates on the organisation, yet it is strictly connected to sustainable development [10]. The connection between CSR and sustainable development is emphasised by the definition formulated by the World Bank, stating that corporate social responsibility is the commitment of the business in contributing to the sustainable development through the cooperation of human employees, their families, local communities and society as a whole, aimed at improving the quality of life and thus both the business and social development [24]. The definition contained in the ISO 26000 Standard also indicates the relation between CSR and sustainable development, defining social responsibility as the responsibility of an organisation for the impact of its decisions and activities on society and the environment, through transparent and ethical behaviour which contributes to sustainable development, including the health and well-being of society [10]. Corporate social responsibility (CSR) is a component of a corporate policy to undertake the sustainability imperative [25]. This strategy, based on respecting the principles of accountability for the social, economic and environmental impact of the organisation, transparency of decisions and actions, ethical behaviour based on integrity and fairness, respect for human rights and observance of the law and international standards of conduct, constitute the foundation of sustainable development [10]. Implementing the concept of sustainable development at the enterprise level consists in the broadly understood ecology of the operating processes, while striving to meet the expectations of all stakeholders, both the financial expectations of owners and shareholders, as well as the needs for security and stability on the part of employees and other groups remaining in relations with the enterprise [26]. Business model sustainability is now one of the key determinants of doing business [14].

Irrespective of the fact that sustainable development has been at the center of management's attention for more than a dozen years now, whether at the macroeconomic or microeconomic level, it was not until recently that the relations between sustainable development and human resources in organizations were noted. However, it is the human factor which stimulates practices oriented at the improvement of organizations' environmental effectiveness. Eco-oriented management is performed exclusively by humans expressing a positive attitude towards the environment, competent in ecology, and bearing a sense of responsibility for the environmental implications of their actions. The key success factor with regards to sustainable development is understanding the nature and objectives of the Green economy [27–29]. Needless to say, Green Human Resource Management (GHRM) plays a significant role in the development of environmentally-friendly practices within organizations. Over recent years, there has been a growing interest in Green HRM. Source literature emphasizes the significant potential of HRM in the popularization of the sustainable balance concept [30–35] and indicates a number of implementable eco-practices [36–39]. Nevertheless, despite the significant progress made with respect to domain development over the last two decades, more research is required [40]. In Poland in particular, the issue has been raised somewhat infrequently. The low number of publications available on the Polish market addressing the issue of GHRM has allowed to formulate a thesis that the concept is relatively unknown in Poland. This fact inspired the authors to take the research route and concentrate on the implementation of GHRM practices in young Polish enterprises. The review of literature revealed a gap with respect to empirical studies in the field. There has been no attempt to evaluate the impact of pro-environmental human resource practices on the sustainable development of Polish organizations. What is more, there has been no assessment of the scope of the concept's practical implementation. The authors intended to bridge the identified gap, to some extent at least.

The objective of the research was to identify environment-friendly HR practices followed by young Polish enterprises and to prioritize them in accordance with their impact on the sustainable

development of companies. The main research problem was to determine the correlation between the impact of individual pro-environmental human resource practices on the sustainable development of young enterprises and their practical implementation.

In the course of the analyses, the following research questions were addressed:

- Is the GHRM concept known to Polish managers?
- Which GHRM practices are most often implemented in young Polish enterprises?
- Which GHRM practices are key to the sustainable development of organizations in the Polish reality?
- Is there a relation between the impact of individual pro-environmental human resource practices and their practical implementation in the analyzed young Polish enterprises?

In order to solve the above presented problems, the study was based on a review of literature, a diagnostic survey, and statistical and comparative analyses.

The article is composed of five sections. The introductory part presents the nature of the idea of sustainable development, its relation to CSR, and the reasons for increased interest in GHRM topics. Moreover, it defines the purpose of research, provides a brief overview of research problems, methods applied, and the limitations of the study. In addition, the authors point at a research gap, which had motivated them to take up respective research, and present the structure of the article and its contribution to science.

Section two places the undertaken considerations in the wider perspective of the world's literature. It focuses on defining the term GHRM and presenting the benefits of practical implementation of the concept. Furthermore, it shows ecological practices that can be applied at each stage of HRM.

Section three outlines the subject of research and the population studies, formulates research hypotheses and describes the methods employed.

The fourth section contains the analysis of research results. It also includes an assessment of the impact of pro-environmental human resource practices on the sustainable development of young organizations and a diagnosis of the scope of Green HRM implementation in young Polish companies. The analysis of research outcome was performed in the context of studies conducted in other countries.

The last section refers to the degree of verification of research hypotheses, presents key conclusions, and indicates the barriers related to the implementation of the GHRM concept under Polish conditions. At the same time, the area of future research and the proposed course of improvement are presented. The authors believe that the requisite condition to expand the scope of GHRM implementation in Polish organizations is management education.

This study contributes to source literature by diagnosing a gap associated with human resource policy use as a tool for supporting corporate sustainable development under Polish conditions, which constitutes the foundation for taking up corrective actions by managers. In the opinion of the authors, the results of the cited studies may stimulate interest in the implementation of the GHRM concept in Polish organizations and the widening of the scope of its use as a tool for sustainable enterprise development. This is particularly vital from the point of view of young organizations' development, for the implementation of the GHRM idea at an early stage of development creates an opportunity to improve performance related to the shaping of green attitudes and corporate culture supporting sustainable development.

## 2. Literature Review

### 2.1. Nature and Importance of Green Human Resource Management

It is clear that sustainability concerns are vital to the operations of contemporary organizations [40–42]. Research demonstrates that environmental practices improve company performance and provide a competitive edge [43,44]. Therefore, more and more companies become interested in ecological issues, noting that environmental protection is in their best interest [45,46].

Green Human Resource Management may play an essential role in environmental management as it is an element of sustainable human resource management (SHRM) [47–49]. This is a new approach to the realization of the HR function, the nature of which is to include ecological objectives in all HRM sub-areas, from employment planning, through recruitment, selection, employee motivation and development, to their evaluation and influence on working conditions. This necessitates that the formulation of the HR function aims not only at the category of economic interest but also at ecological areas, so as to generate added value for stakeholders [50]. Hence, Green HRM reflects the level of the greening of human resource management practices [51], whereas its implementation requires individual stages of human resource management to be modified and adapted, to become green—i.e., environmentally-friendly [37,50,52]. The main focus of activities undertaken as part of Green HRM is the development of an ecological working environment and environmentally responsible worker attitudes which will subsequently penetrate—as a model of operation—private zones [53,54].

Green HRM is, therefore, part of a broader framework of corporate social responsibility [55] and means the application of HR policies to promote sustainable use of company resources and to support ecology [20,56]. Its primary objective is to develop ecological sensitivity in employees and to make them aware of how their own behaviour may affect the environment. This is about motivation and making one feel proud of participation in green initiatives. This way, Green HRM supports the creation of a green workforce, who understands, appreciates, and practices ecological initiatives [36]. At times, Green HRM is also defined as the use of personnel practices to improve environmental performance [28,40,57–60]. This is due to the fact that HR processes play a significant role in the practical application of sustainable development policies [61–63] and in the construction of a sustainable development culture [64,65]. Without a doubt, Green HRM enhances the role of HRM in making the sustainable development concept a reality [58]. It underscores the fact that HR departments play a key role in the practical implementation of environmental policies [63] and in the development of sustainable corporate culture [64]. In this context, it is a primary instrument allowing the implementation of sustainable development across an organization [29,66].

The implementation of Green HRM, promoting green organizational culture and stimulating environment-oriented employee behaviour, is beneficial to organizations for a number of reasons [67–69]. The first effect is image benefit [60]. The market success of contemporary enterprises is increasingly dependent on image. Given the above, taking up voluntary environmental initiatives, rather than merely conforming to the binding legal regulations regarding environmental protection, is becoming a means by which to gain a competitive advantage [70,71]. The increase in ecological awareness and the influence of various stakeholder groups are of primordial importance [72]. Consumers seek ecological products, whereas business partners pay attention to ecological attestations. Companies seeking to maintain their market share are forced to adopt an environment-friendly orientation. As a result of such an approach, companies are gradually developing a new philosophy of management, where expenditure on environmental protection is no longer only seen as a cost, but rather as an investment in an organization's development.

Authors providing an insight into Green HRM underpin that human resources may significantly contribute to the establishment of ecological organizations [31,45,73]. They argue that environmental policies with regards to recruitment, performance management, training, development, and remuneration are powerful tools for engaging employees in the practical implementation of environmental protection strategies [63]. Green HRM tools, processes, and practices may augment employee participation in the process of ecological innovations, reduce environmental waste, improve products, increase process efficiency, and cut costs [59]. Green HRM, therefore, constitutes a part of Green Management alongside greening operations, greening accounting and finance, greening retailing and greening marketing [28].

## 2.2. Green Human Resource Management Practices

Authors engaged in Green HRM issues draw attention to a number of environmental practices applicable to the field of human resource management at each stage of the HR process [28,36,37,52,55,74,75].

The implementation of Green HRM concepts begins as early as during job analysis and design. It is important to have equivalent design following the principles of environment-friendly jobs, and that each job role sets out tasks related to environment protection [52]. Many organizations have created a special position whose occupant is responsible for the coordination of various aspects of environmental management [37].

Green HRM implementation means that even during the recruitment process, candidates should be informed that as part of their roles within organizations, they are expected to adhere to an ecological attitude as standard, and environmental protection—of primordial importance. Companies with reputations for being green employers are able to attract talented specialists more effectively [28,40]. Research shows that even graduates, only just entering the market, tend to choose employers renowned for their corporate environmental responsibility [55]. Green recruitment, however, is not only about exposing environmental values with the intention of drawing candidates competent in ecology, but also about the very approach to the process of recruitment, i.e., through limiting the use of paper throughout the process. This is due to the fact that environmentally-friendly organizations ought to have a transparent set of rules and principles setting forth employee behaviour and encouraging employees to follow environmental protection requirements.

An important role in the effective implementation of Green HRM is played by motivating employees to undertake environmentally-friendly activities [28,52]. Studies confirm that Green Compensation is a vital tool for supporting environment management, which may help attain environmental goals [76–78]. Effective tools consist of awards and compensation for promoting environmental actions across organizations. Through the inclusion of elements of green management within the remuneration programme, managers may promote green attitudes amongst employees. Other non-financial incentives include, amongst other things, praise, diplomas of merit for the most active members, and grants for environmental projects [79]. Another crucial issue is the creation of a participative working environment, in which employees can freely present their ecological ideas, which may contribute to more efficient resource use. Employee participation results in the enhanced effectiveness of environmental management systems thanks to more efficient resource usage [76], limited wasteful practice [80], and reduced contamination [81].

Another key element of Green HRM is the expansion of employee rights with regards to the implementation of green initiatives, referred to as Green empowerment [82]. It involves encouraging staff to take ecological decisions as well as empowering them to take responsibility for their actions which translates into cost awareness, a sense of belonging to the same community, better performance, and improved relations between team members thanks to the conviction that employees are afforded genuine, decision-making power. Hence, empowerment raises employees' engagement in ecological initiatives and the satisfaction they experience following their attainment of environmental goals [38,78,83–88].

In addition, Green HRM encompasses disciplining constraints, such as warnings, penalties or work suspensions, taken with respect to individuals who fail to conform to the environmental principles binding across organizations. This may prove necessary if a given organization aims to achieve environmental goals [52,63]. To implement Green HRM principles in large organizations, trade union support is required.

Yet another inherent part of the idea is an assessment of employee ecological performance. The inclusion of environmental management goals into the performance appraisal system is necessary, for it ensures regular feedback on employee progress in their attainment [28,37,52,63]. No organization would be capable of guaranteeing real, environmental effectiveness in the absence of such a policy.

One more integral element of Green HRM implementation is environmental protection, renewable energy, waste reduction and energy saving training [20]. Such training allows employees to gain ecological knowledge and raise environmental awareness. Research indicates that this is the most important element of the process of human resource management and facilitates the attainment of environmental objectives [83,89]. The role of environmental qualifications is also emphasized in strategic EU documents, inter alia in The Strategy for Education for Sustainable Development [90], as a low-emission economy and effective use of environmental resources is a priority for the EU. In the “Skills for Green Jobs European Synthesis Report”, it is assumed that each job may potentially become more ecological; it also presents the primary needs with respect to green skill development [91].

In this context, another part of Green HRM is also the generation of green jobs defined as positions sensitive to the environment, resource-efficient, and socially responsible [92]. Persons occupying such positions are referred to as green collar workers [93–95]. The list of green jobs features not only occupations relating to farming or forestry, but also the following: ecological auditor, ecological campaign management specialist and energy efficiency advisor.

All in all, it needs to be emphasized that environmentally-friendly Green HRM practices result in the development of “green” human resources, i.e., highly-qualified employees who understand and follow the principles of ecological development.

### 3. Materials and Methods

The subject matter of the research were environment-friendly human resource practices implemented across young Polish enterprises. The list of activities included in the research is presented in Table 1. The diagnosis was conducted with reference to 28 activities regarding 7 areas of human resource policy:

- Green job design and analysis (activities 1,2,3)
- Green recruitment (activities 4,5,6,7,8,)
- The shaping of green discipline at work (activities 9,10,11)
- Green development (activities 12,13,14)
- Green performance evaluation (activities 15,16,17,18)
- Green motivation (activities 19,20,21,22,23)
- Green HRM procedures (activities 24,25,26,27,28)

**Table 1.** A list of environmental practices in the field of Green HRM covered by the research [28,36,52,63,96].

Activity Number	Activities
1	Inclusion of tasks related to environmental protection (duties and responsibilities) in job descriptions
2	Inclusion of green competencies (such as ecological knowledge) as a part of competency requirements for each position
3	Creation of positions responsible for environmental management aspects across organizations
4	Communication of employer’s commitment to ecology during recruitment
5	Exposure of environmental values in job vacancy advertising
6	Verification of candidate ecological knowledge and skills during recruitment process
7	Preference for candidates with competencies and experience in ecological projects
8	Introduction of new employees to environmental standards of organization during adaptation
9	Establishment of a clear set of rules and provisions regarding employee conduct in relation to environmental protection
10	Development of a disciplinary system to discipline employees breaching the principles of ecological conduct
11	Implementation of disciplinary actions (such as warning, penalty, suspension, dismissal) against employees breaching the provisions and rules of environmental protection
12	Analysis and identification of employee needs with regards to ecological training
13	Provisions of ecological training for employees and managers to develop ecological skills and knowledge

Table 1. Cont.

Activity Number	Activities
14	Incentives for workers to develop green competencies
15	Inclusion of ecological criteria in performance appraisals
16	Establishment of goals and responsibilities in relation to ecological initiative implementation
17	Conduct of environmental audits
18	Provision of regular feedback to employees on their progress in attaining ecological goals or improvement of their environmental effectiveness
19	Incentives for workers to submit ecological initiatives (e.g., Ecological project competitions)
20	Provision of advisory services and support to solve ecological problems
21	Sharing knowledge about environmental initiatives or programmes
22	Development of a rewards system for completion of ecological projects (awards, subsidies to wages)
23	Promoting environmentally-friendly attitudes when performing professional tasks (such as paper use reduction, waste sorting)
24	Inclusion of environmental goals of HRM in company strategy
25	Measurement of effectiveness of environmental actions in HRM
26	Provision for HRM environmental actions-related expenditure in the budget
27	HRM environmental action progress monitoring
28	Drafting reports on environmental actions in HRM

The list of practices covered by the research was identified pursuant to the analysis of source literature.

With a view to analyzing the effect of the above-listed HR practices on sustainable development, a (partial) survey was conducted among a random, representative population of 150 young enterprises with their seats in Poland. Young enterprises were defined as those operating on the market for no more than 3 years. The study was conducted in January 2018 with the application of the CATI technique. The study sample was selected on a layer basis. First, 25 entities from each of the six Polish regions were drawn: Central, South, East, North-West, South-West and North. The survey targeted individuals in charge of human resource policy development in the study enterprises. The characteristic features of the study population are shown in Table 2.

Table 2. Details of young enterprises included in the study.

Criterion	Number of Enterprises	Percentage
Employment number:		
50–249 employees	100	66.7
250–499 employees	42	28.0
More than 500 employees	8	5.3
Time on the market:		
up to 1 year	14	9.3
1–3 years	136	90.7
Type of ownership:		
limited liability company	86	57.3
joint-stock company	21	14.0
state-owned enterprise	43	28.7
Scope of operations		
international	49	32.7
national	44	29.3
regional	20	13.3
local	37	24.7
Main type of activity:		
services	99	66.0
production	43	28.7
trade	8	5.3
Respondent's position:		
CEO	12	8.0
HR Director	8	5.3
Head of HR Department	126	84.0
other	4	2.7



The enterprises which prevailed in the population studied were medium-sized, i.e., employing between 50 and 249 employees (66.7%), operating on the market for more than a year (90.7%). The most frequent type of ownership of young organizations was a limited liability company (57.3%). The geographical coverage of young enterprises was highly-diversified, with the most numerous operating within the country (29.3%). The prevailing type of business activity of the study entities was the provision of services (66%). Respondents were mainly heads of human resource departments (84%); others included deputy directors, coordinators, and department managers.

Research allows the following:

- determination of the impact of individual pro-environmental human resource practices on the sustainable development of young enterprises and identification of key practices as determined by respondents;
- identification of practices most frequently applied under Polish conditions; analysis of the correlation between the impact of individual pro-environmental human resource practices and their practical implementation in young Polish enterprises.

Over the course of research, attempts were made to verify the following research hypotheses:

**Hypothesis 1.** *Pro-environmental actions undertaken in the area of human resource management have an uneven impact on the sustainable development of young organizations, which allows one to highlight primary and secondary practices.*

**Hypothesis 2.** *There is a correlation between the impact of individual pro-environmental human resource practices from the point of view of sustainable development and their practical implementation within young Polish enterprises.*

To verify Hypothesis 1, measures of central tendency, both classic and location (in the case of impact asymmetry), and measures of dispersion, i.e., the extent to which a distribution is scattered, were applied. The dispersion measures revealed a mean deviation of individual actions from the average and a force of activity variability.

In the process of verification of Hypothesis 2, Spearman's rank correlation coefficient was used, which allowed the authors to determine the strength and direction of correlations between the impact of Green HRM activities on the sustainable development of young companies, and their practical implementation. Furthermore, the parameters of the linear regression model were estimated, which allowed the modelling of the relationship between the two variables.

All of the above allowed an assessment of the extent of GHRM idea implementation under Polish conditions in the context of influencing sustainable development policy in young organizations, which is crucial due to the vital importance of sustainable development for improving the competitiveness of organizations (micro-economic level) and the Polish economic policy of sustainable development (macroeconomic level).

## 4. Results and Discussion

### 4.1. Assessment of the Impact of Pro-Environmental Human Resource Practices on the Sustainable Development of Organizations

The assessment of the impact of pro-environmental human resource practices on young organization development was conducted with the application of a five-level Likert scale, where 1 signified a very low impact and 5 a very high impact of a given practice. To analyze the impact, the structure of the group was described by the calculation of measures of central tendency, both classic and location (in the case of impact asymmetry), and measures of dispersion, specifying the extent to which a distribution is scattered (Table 3).

**Table 3.** Evaluation of the impact of activities on the sustainable development of young enterprises \*.

Item	Activity No.	Aggregate Assessment of Impact (Points)	Mean Assessment of Impact (Points)	Median (Points)	Mode (Points)	Standard Deviation (Points)	Coefficient of Variation (%)
1	23	520	3.47	4	4	1.324	38.2
2	1	410	2.73	3	3	1.319	48.3
3	3	399	2.66	3	3	1.284	48.3
4	9	397	2.65	3	3	1.238	46.8
5	24	386	2.57	3	3	1.200	46.7
6	2	377	2.51	3	3	1.230	48.9
7	21	373	2.49	3	3	1.214	48.8
8	8	366	2.44	3	3	1.179	48.3
9	17	364	2.43	3	3	1.212	49.9
10	26	360	2.40	3	3	1.210	50.4
11	16	360	2.40	3	3	1.159	48.3
12	19	358	2.39	3	3	1.140	47.7
13	12	353	2.35	3	3	1.177	50.0
14	13	352	2.35	3	3	1.153	49.1
15	14	350	2.33	3	3	1.115	47.8
16	22	349	2.33	3	3	1.156	49.6
17	20	348	2.32	3	3	1.119	48.2
18	11	348	2.32	3	3	1.183	51.0
19	25	345	2.30	3	3	1.151	50.1
20	18	345	2.30	3	3	1.128	49.0
21	10	343	2.29	3	3	1.166	51.0
22	4	342	2.28	3	1	1.188	52.1
23	27	337	2.25	3	3	1.129	50.2
24	28	334	2.23	3	3	1.100	49.4
25	15	331	2.21	3	3	1.082	49.1
26	7	323	2.15	3	1	1.134	51.1
27	5	323	2.15	2	1	1.098	51.0
28	6	322	2.15	2	1	1.071	49.9

\* Respondents made assessments whether or not a given activity was implemented within a given enterprise.

To identify environmental activities which, according to respondents, had the largest and the smallest impact on sustainable development across organizations, the study sample was divided into quartiles. The first quartile (7 activities) was composed of activities of primordial importance to the policy of sustainable development in organizations; whereas, the third quartile consisted of activities which did not contribute in any significant manner to policy implementation.

The coefficient of variation of the impact of activities on the sustainable development of young enterprises was highly diversified. The results oscillated around 50%, however, the average variability of the impact of environmental activities in relation to the average impact oscillated between 1.071 and 1.324. This means that respondents evaluated activities seen as key—higher and activities of lesser importance in terms of sustainable development—lower. The above analyses confirmed, therefore, the hypothesis which assumed that pro-ecological activities in the field of human resource management have a varied effect on the sustainable development of young organizations and allowed the identification of primary and secondary practices.

The analysis of data presented in Table 3 demonstrates that, in the opinion of respondents, it was activity No. 23, i.e., promoting environment-friendly attitudes when performing professional tasks (such as paper use reduction, waste sorting), which had the largest impact on sustainable development of young enterprises. Most frequently, respondents evaluated its impact as high (mode 4), and the average impact of the activity was 3.47. Other activities the respondents found crucial were:

- inclusion of tasks related to environmental protection (duties and responsibilities) in job descriptions (activity No. 1), with an impact average of 2.73;
- creation of positions responsible for environmental management aspects across organizations (activity No. 3), with an impact average of 2.66;

- establishment of a clear set of rules and provisions regarding employee conduct in relation to environmental protection (activity No. 9), with an impact average of 2.65;
- inclusion of environmental goals of HRM in company strategy (activity No. 24), with an impact average of 2.57;
- inclusion of green competencies (such as ecological knowledge) as a part of competency requirements at each position (activity No. 2), with an impact average of 2.51;
- sharing knowledge about environmental initiatives or programs (activity No. 21), with an impact average of 2.49.

On the contrary, a very small impact on sustainable development in organizations (mode 1) was associated by respondents with activities related to recruitment and the selection of employees, i.e.,

- verification of a candidate's ecological knowledge and skills during the recruitment process (activity No. 6), with an average impact of 2.15;
- exposure of environmental values in job vacancy advertising (activity No. 5), with an average impact of 2.15;
- communication of employer's commitment to ecology during recruitment (activity No. 7), with an average impact of 2.22;
- preference for candidates with competencies and experience in ecological projects (activity No. 15), with an average impact of 2.21.

In addition, the group of insignificant—from the point of view of sustainable development of young companies—activities comprised: HRM environmental action progress monitoring (activity No. 28) and drafting reports on environmental actions in HRM (activity No. 27), the average impacts of which were 2.23 and 2.25, correspondingly. The surveyed specialists opined that the sustainable development of organizations is not greatly affected by the communication of an employer's commitment to ecology during recruitment (activity No. 4), with an average impact of 2.24, and a mode of 1.

Here, let us recall the studies conducted in 376 Pakistani companies, which demonstrated the key role of educational practices in the attainment of environmental management goals [97]. Given the above, Green development practices, i.e., the identification of needs in respect of pro-environment-related training, the provisions of ecological training for employees and managers to develop green skills and knowledge, and the provision of incentives to employees to develop green competencies, appear to be undervalued in Poland. They were listed as No. 13, 14, and 15 in terms of their impact on the sustainable development of organizations.

Another surprising issue is little awareness of the importance of practices in the area of providing incentives for taking up environment-friendly actions. Encouraging employees to submit environmental initiatives ranked 12 in the opinion of the managers, whereas the provision of advisory services and support to solve ecological problems was found even less important (No. 17). This raises concerns in the view of studies conducted in Denmark, which showed that green motivation programs are an effective tool for increasing employee participation in pro-environmental initiatives [98]. It seems that the area of Green motivation should be treated as principal from the point of view of the effectiveness of pro-environmental human resource practices and the input of the HR function into the sustainable development of organizations. The lack of appreciation of the practices oriented at development of green competencies of employees as well as motivating them to get involved with green projects call into question the viability of GHRM concept development in the entities studies.

Another issue rated rather low by Polish managers is the role of recruiting candidates with green competencies. The verification of candidate's ecological knowledge and skills during the recruitment process was ranked 28—i.e., as the last position in the ranking of practices having an impact on the sustainable development of organizations. The preference for job applicants with competencies and experience in the performance of environmental projects was also ranked low—26.

The insignificant impact of green acquisition of employees was confirmed, however, by the studies conducted by Owino and Kwasira [99] and Guerciet al. [100]. Research quoted demonstrated that green recruitment is perceived as an activity having no impact on the environmental performance of organizations. Given the average assessment of the impact of Green HRM, which was 2.3 in the 5-level scale, we can put forward the following conclusion: the importance of pro-environmental human resource practices is clearly underestimated in young Polish enterprises. Such an approach may be a consequence of the way the personnel function is perceived in organizations. Studies conducted by Harris and Tregidg [51] demonstrated that despite their personal interest in influencing environmental policy, managers of HR departments did not regard the HR function as the main driver in terms of achieving sustainable development. On the other hand, more and more often emphasis in source literature is placed on the importance of the human resource management practice as a mechanism driving innovation and environmental management effectiveness [32–34,40,53,96,101–104]. A number of models laying down theoretical foundations for the implementation of the strategy of sustainable development via Green HRM practices [33,40,53,104]. One published significant model is the LOS model of Buller and McEvoy [105], illustrating the relations between the strategy of sustainable development, practices of human resource management, and productivity. This model is based on the assumption that HRM practices, i.e., recruitment, selection, training, development, performance evaluation, and award system are key to the generation, reinforcement and maintenance of organizational skills and company effectiveness with reference to the performance of economic, environmental and social goals. The authors of the model underpin that organizational performance associated with the attainment of long-term goals increases whenever HRM practices are internally coherent and oriented at the reinforcement of environmental activities across all levels of management. Renwick et al. [28], in turn, presented an AMO model, wherein they identify concrete HRM practices that are potentially beneficial to the strategy of sustainable development. The authors claim that by attracting and shaping employees with “green” skills through HRM processes, companies improve their chances of successful environmental strategy performance. Next, we should mention Savitz and Weber [106], who applied a “workforce life-cycle” concept to present the manner in which a company may employ various HRM practices to transform traditional businesses into sustainable ones. Among HRM practices which, potentially, may enhance the results of sustainable development, the authors enumerated recruitment, selection, development, performance assessment, and rewarding.

Here, we can identify a gap between the theory and practice of human resource management. Despite the potential of Green HRM practices, greatly emphasized by a number of specialists, the function’s contribution towards the attainment of sustainability under Polish conditions is not deemed sufficient. The underestimation of the role of HR in the building of sustainable organizations seems to be one of the more vital determinants of the limited scope in which the GHRM concept is implemented. A fact which may account for such a state of affairs is that many entities continue to perceive the HR function as a strategic partner that actively participates in key decision-making processes generating added value [92,106,107]. In view of the above, more and more frequently, source literature yields arguments highlighting the need to ensure that the HR function is employed, to a greater extent, for the benefit of sustainable companies [30,40,92,106,108,109].

#### *4.2. Evaluation of the Scope of Green HRM Implementation in Poland*

On the basis of data regarding the number of enterprises pursuing individual pro-ecological HR practices, characteristics of their structures were developed. The average number of enterprises performing a given activity was 38 (25.3%), whereas the average variability of the number of enterprises implementing ecological activities was 20. Most often a given activity was performed by 30 enterprises. Fifty percent of activities were accomplished by 33 enterprises at the most, and 50%—by a minimum of 33 enterprises. The range between the number of enterprises conducting an activity was 103, whereas the value of the coefficient of variation was 52.3%. This indicated a large variability of the number of enterprises carrying out ecological activities. The structure index (the frequency of occurrence of

a given activity) oscillated between 10% and 78.68%. It should be emphasized that it exceeded 38% only in the case of activity No. 23. This means that only single activities were conducted more often than others. Research revealed therefore that the scope of Green HRM implementation under Polish conditions was limited. The research results revealed a small range of implementation of the GHRM concept in young Polish enterprises (Table 4).

**Table 4.** Performance of HRM pro-environmental activities in young Polish enterprises.

Activity No.	Number of Young Enterprises Performing the Activity	Percentage of Young Enterprises Performing the Activity (%)
1	65	43.33
2	44	29.33
3	48	32.00
4	31	20.67
5	15	10.00
6	19	12.67
7	17	11.33
8	49	32.67
9	56	37.33
10	27	18.00
11	30	20.00
12	38	25.33
13	35	23.33
14	29	19.33
15	21	14.00
16	34	22.67
17	38	25.33
18	28	18.67
19	39	26.00
20	30	20.00
21	42	28.00
22	30	20.00
23	118	78.67
24	53	35.33
25	28	18.67
26	34	22.67
27	30	20.00
28	26	17.33

The most popular activity turned out to be activity No. 23, i.e., promoting environment-friendly attitudes when performing professional tasks (such as paper use reduction, waste sorting). This practice was implemented relatively often—in as many as 118 of the entities studied (78.7% of the study population). Nevertheless, given its nature, we can presume that its implementation in enterprises was due to economic reasons than ecological attitudes. The remainder of practices were carried out by less than half of the study enterprises. The lowest frequency or practice application was recorded with regards to:

- activity No. 5—exposure of environmental values in job advertising, implemented in 15 enterprises;
- activity No. 7—preference for candidates with competencies and experience in ecological projects, carried out by 17 enterprises;
- activity No. 6—verification of candidate ecological knowledge and skills during the recruitment process, applied in 19 enterprises.

The quoted results demonstrate significant omissions in the area of Green HRM implementation across young Polish organizations. The reason behind it could be, most notably, the deficit of knowledge concerning pro-environmental human resource practices. Such a competency gap was

evidenced by the study. The Green HRM concept was familiar to as few as 29% of the study entities. A particularly underestimated area turned out to be green recruitment. Hence, we may formulate a conclusion that HR specialists in young Polish enterprises seem to underestimate the importance of recruiting environment-friendly staff and personnel with green competencies. Furthermore, it was quite rare for the entities covered by the study to prepare reports about pro-environmental HRM activities. This activity was pursued by a mere 26 companies. Needless to say, pro-environmental HR practice reporting is a great opportunity to systematize Green HRM activities. Data included in the reports show not only where a given organization is now, but also what it intends to achieve in the near future. This constitutes the basis for activity coordination and personnel process monitoring. Reports demonstrate the degree of involvement in environment-friendly HR practices, reveal key achievements in the field, and facilitate the drawing a roadmap for responding to new challenges. Therefore, they constitute extra support in the process of personnel-related decision-taking. Report development is, thus, an indication of Green HRM strategy maturity, as well as a tool for communicating information regarding a company's public involvement in ecological practices.

It was equally rare to find HRM pro-environmental action performance measurements, an activity that is worth contemplating. This practice was pursued by as few as 28 enterprises, which accounted for 18.67% of all study entities. It needs to be underpinned that the Green HRM subject literature lacks a definitive, commonly accepted method of measuring HR pro-environmental practices performance which may be a key obstacle to the implementation of the activity—on a par with the multifaceted nature of the issue. The authors assert that the following could be helpful:

- measurement of the level of Green HRM-related expenditure;
- Green HRM sub-indices (e.g., the extent of ecological training, the number of ecological initiatives, the number of awards given to employees for their environmental activity);
- surveys designed to evaluate the way in which the importance of Green HRM for the attainment of corporate goals is perceived by managers;
- determination of the number of Green HRM practices revealed in social reports.

It ought to be emphasized that when speaking of Green HRM we must refer to long-term, rather than short-term performance or productivity. This is because benefits of concept application are typically derived in a more distant future, multidimensional in nature and not always easy to quantify. GHRM should be approached as a long-term HR corporate strategy directed at using the instruments of personnel policy to build an environmentally-friendly organization.

#### *4.3. Correlation between the Impact of Pro-Environmental Activities on Sustainable Development and Their Practical Implementation in Young Enterprises*

In order to determine the strength and direction of correlations between the impact of pro-environmental human resource practices on the sustainable development of young companies and those activities which are actually implemented in practice, a Spearman's rank correlation coefficient was calculated (Table 5).

The rank correlation coefficient was 0.956 which means that there is a very strong positive relationship between the assessment of the impact of human resource activities on sustainable development and the implementation of those activities in individual companies. It means that only activities that, in the opinion of executives, were crucial in terms of the sustainable development policy were taken in the subject companies.

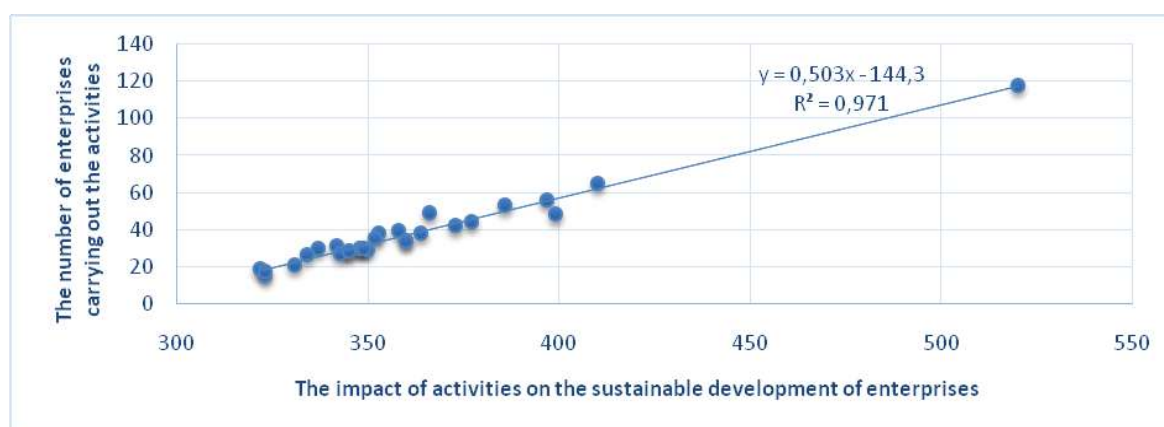
A regression analysis was applied to identify the relationship between the influence of environment-friendly activities and their actual implementation in companies using a mathematical model (Figure 1). The linear regression function (type II regression function) determines the relationship between the changes in one variable and the changes in the other variable in the sample. The calculated regression coefficients of  $a_y = 0.5037$  inform us that a 1-point rise in the impact of an activity results in an average rise in the implementation of the activity in a given company of 0.5037

in the relevant sample. The coefficient of determination  $R^2 = 0.9713$  indicates that in 97.13% of cases, the changeability of the number of companies taking environmentally-friendly activities in the scope of HRM is explained by the estimated regression function (elucidating the impact of environment-friendly activities).

**Table 5.** Correlation between the impact of pro-environmental human resource practices on the sustainable development and their practical implementation in young enterprises.

Activity No.	Aggregate Assessment of Impact of Activity X (Points)	Activity Pursued in Enterprises (Number of Entities)	Rank X	Rank Y	Di Distance	Square of Distance $D_i^2$
1	410	65	2	2	0	0
2	377	44	6	7	-1	1
3	399	48	3	6	-3	9
4	342	31	22	15	7	49
5	323	15	26.5	28	-1.5	2.25
6	322	19	28	26	2	4
7	323	17	27.5	27	0.5	0.25
8	366	49	8	5	3	9
9	397	56	4	3	1	1
10	343	27	21	23	-2	4
11	348	30	18	18.5	-0.5	0.25
12	353	38	13	10.5	2.5	6.25
13	352	35	14	12	2	4
14	350	29	15	20	-5	25
15	331	21	25	25	0	0
16	360	34	10.5	13.5	-3	9
17	364	38	9	11.5	-2.5	6.25
18	345	28	19.5	21	-1.5	2.25
19	358	39	12	9	3	9
20	348	30	17.5	17.5	0	0
21	373	42	7	8	-1	1
22	349	30	16	16.5	-0.5	0.25
23	520	118	1	1	0	0
24	386	53	5	4	1	1

$$r_s = 1 - (6 \times 161 / 28 \times (28^2 - 1)) = 0.956.$$



**Figure 1.** Correlation between the impact of activities and activity implementation in young enterprises.

The following two hypotheses were made in order to verify whether the taken sample of companies, which was to present how young companies truly operate, truly reflects the relationships developed in all young companies:

$$H_0: \rho_d = 0$$

$$H_1: \rho_d > 0$$

The null hypothesis assumes that there is no correlation in the population between the impact of eco-friendly actions on sustainable development and their implementation in companies. On the other hand, due to the positive result of the rank correlation coefficient in the sample, the alternative hypothesis permits us to assume that there is correlation and that the correlation is positive.

It was the rank correlation coefficient calculated for the sample, denoted as  $\rho_d$ , which tested the hypothesis  $H_0: \rho_d = 0$ . The null hypothesis was tested with the exact distribution of the critical values for Spearman's rank correlation coefficient at the significance level of  $\alpha = 0.05$  using the relation  $P(r_d \geq r_d^0) = \alpha$ . The critical value for the Spearman's rank correlation coefficient was  $r_d^0 = 0.317$ , and the respective value in the sample was  $r_d = 0.956$ . Since it is true that  $r_d \geq r_d^0$ , in other words,  $0.956 > 0.317$ , the null hypothesis should be rejected in favour of the alternative hypothesis, which proves that there is a positive correlation between the impact of environmentally-friendly activities and their implementation in the whole population.

## 5. Conclusions

An overview of literature allows us to state that Green HRM is a human resource strategy supporting pro-environmental corporate management. Benefits resulting from its implementation may be due to an increase in the ecological awareness of the staff which translates into the sustainability of practices across organizations. It is also a tool for increasing competitiveness thanks to enhanced image, cost reduction, improved customer relations, acceptance by local authorities and communities, and increased employee satisfaction, loyalty and motivation.

To evaluate the extent to which Green HRM is implemented under Polish conditions, empirical research was conducted using a representative sample of young Polish enterprises. They allowed the following hypotheses to be positively verified:

**Hypothesis 1.** *Pro-environmental actions undertaken in the area of human resource management have an uneven impact on the sustainable development of young organizations which allows one to highlight primary and secondary practices.*

**Hypothesis 2.** *There is a correlation between the impact of individual pro-environmental human resource practices from the point of view of sustainable development and their practical implementation in young Polish enterprises.*

The analysis of correlations demonstrated a strong positive correlation between the evaluation of the impact of individual environmentally-friendly HR activities on sustainable company development and their practical implementation. Thus, research demonstrated that the higher the evaluation of the impact of a given activity, the more often it was implemented in the companies studied. Analysis of the regression function showed that a 1-point increase in the impact of any activity stimulated average growth in activity implementation in a company of 0.5037. This allowed the formulation of the following conclusion: in order to increase the scope of implementation of the Green HRM concept in Polish young enterprises, it is necessary to raise awareness of the importance of Green HRM activities to achieve company sustainability.

In addition, empirical research revealed that the Green HRM concept is relatively unknown and underestimated in Poland. It was determined that young Polish enterprises did not employ the whole range of HRM practices requisite for effective environmental management. Hence, we can state that Green HRM is in its initial phase of development in the study entities. The following shortcomings are evidence of the above conclusion:

- lack of familiarity with the concept among specialists responsible for human resources management, and related intuitive selection of practices to be implemented;



- lack of a systemic approach expressed by the execution of individual pro-environmental practices in HRM area;
- lack of developed measurement and reporting procedures regarding Green HRM.

The principal restriction encountered in the course of research was the shortage of studies conducted in the young enterprise population, which made it difficult to carry out a comparative analysis of the results of own research. The world's literature abounds in publications about GHRM practices implemented in mature enterprises with an established market position. Nonetheless, there are no analyses in the group of enterprises operating on the market for a period shorter than 3 years.

The authors assert that the reasons behind this limited scope of Green HRM concept implementation may be sought, above all, in the absence of knowledge about it across young Polish enterprises' management. A major role in overcoming the said barrier is played by dissemination of knowledge concerning the field in business circles. One requisite condition for the HR function to become a strategic partner in sustainable development is, therefore, manager qualification development.

In the opinion of the authors, activities vital for effective GHRM concept implementation are—although not appreciated by the study managers—also measurement and reporting of corporate activity in Green HRM. This is because there is no effective management in any area if no measurement or reporting is provided. The assessment of Green HRM performance is required to expand the scope of its practical implementation. This facilitates the impact of Green HRM activities on the sustainable development of organizations, which in turn lays foundations for changes to be introduced in the way the issue is approached and for the practices to be recognized. The implementation of the Green HRM measuring instrument may, therefore, pave the way for it to be recognized as an integral part of the sustainable development model in enterprises. Given the foregoing, there is a demand for enhanced measurement methods and reporting standards regarding pro-environmental HR practices, particularly in Poland. Enriched reporting in the CSR field by supplementing green personnel reports aimed at promoting enterprises as followers of good HR practices may be, according to the authors, a key tool in the popularization of the Green HRM idea.

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