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Green Thinking - Green Positions

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There are different definitions and conceptual approaches to 'green jobs' ('green' meaning to be related to the environmental pillar of sustainability). It is generally accepted that green jobs are those that contribute in some way to the preservation or restoration of the natural environment. The conceptual diversity also creates many difficulties in measuring them, mainly because they do not constitute a clearly defined sector of the labor market. In this study, the authors first compared conceptual approaches with corporate communication. The research is exploratory in nature, so at this stage, the authors looked at companies where communication with employees is considered to be a key issue (these companies are referred to as 'leading companies'). They were defined as having won for two consecutive years at least one of the awards/recognitions studied. The authors looked for 'green' attributes among the 'leading companies' in online job advertisements. The novelty of the research lies in the detailed analysis of green jobs and green-collar jobs and the labor market communication of these concepts, which may also answer the question of whether the green attributes of the jobs or the jobs themselves are attractive to prospective employees. The most important finding of the research is that the "green idea" is rarely mentioned in job advertisements of the companies surveyed. In line with the literature, the results show that even leading companies do not use sustainability as a message to attract employees.

1. Introduction

Economic factors (Hashim et al., 2022) and social factors (Sharaai et al., 2022) are of key importance in addressing the complex issues of sustainability, behind which the significance of the workforce seems inevitable. Recruiting employees with high potential is the basis for gathering knowledge, facilitating innovation, and providing competitive advantage. In the labor market finding, attracting, and retaining the right talent is an increasingly challenging task at both industry and organizational levels. Companies play a prominent role in achieving the sustainability goals (Radácsi, 2011). Thus, many companies are faced with the problem of recruiting high potential in a shrinking labor market (Sommler et al., 2016). Ambler and Barrow (1996) first coined the term 'Employer Brand' and defined it as 'the package of functional, economic and psychological benefits provided by employment and identified with the employing company' (p. 187), using a combined, complex set of marketing and human resources (HR) elements. The idea of an employer brand focuses on differentiating an organization from its competitors (Backhaus and Tikoo, 2004) and involves internal and external actors, who perceive the organization as a 'great place to work' (McLeod and Waldman, 2011).

Environmental protection-related tasks are common to many jobs. They do not necessarily mean solely the responsibility of one person or a small group of people at a workplace. So it is an open question where the boundary is; and also when a job can be considered to be green? The question can be approached from another perspective: in the case of companies where the core activity is related to environmental protection (e.g. waste recycling), can all jobs be considered 'green collar' jobs, or only those that are directly related to the core activity? The research aims to find out whether leading companies in Hungary consider it important to emphasize green and environmental sustainability values in their job advertisements. The authors hypothesize that if companies value environmental sustainability, they will certainly include it in their job advertisements.

2. Literature review

By the 2010s, employer branding became an integral part of an organization's sustainability strategy: new employer branding ideas and pathways were emerging that reinterpreted theories of branding, HRM (Human Resource Management), and CSR (Corporate Social Responsibility) as a holistic and process-based discipline (Kryger Aggerholm et al., 2011). Drawing on the social identity theory and signaling theory, they hypothesized that firms can use their corporate social performance activities to attract job applicants (Greening and Turban, 2000), and the mediating role of corporate reputation in the relationship between employer branding and the intention to apply for a job offer (Junça Silva and Dias, 2023). Researchers have also found some counterexamples: while organizations are using multidimensional, two-way communication in new and innovative ways e.g. providing space for employee voice (Miles and Mangold, 2014) or the impact of firm-created versus usergenerated social media communication on brand equity (Schivinski and Dabrowski, 2016), as virtual space and social networks have become common and active in recruitment processes (Vetráková et al., 2018), yet organizations are not exploiting the potential of incorporating internal values, information and characteristics in job advertisements (Puncheva-Michelotti et al., 2018), although measuring employer branding by considering existing employee perceptions has become a major issue in research (Nanjundeswaraswamy et al., 2022). Green messages are also closely linked to business performance (Makhloufi et al., 2023). As greening of employment is needed to avoid multiple ecological crises, it is not clear what constitutes and what makes a workplace ecologically sustainable. The literature suggests that larger firms are more likely to be in the group of firms with green jobs (Tsironis et al., 2022). A theoretical model has been established that suggests a mediating role for 'employee green workplace behavior' in the relationship between 'green human resource management practices' and the 'social sustainability' of organizations (Amrutha and Geetha, 2020). Industrial-organizational psychology (IO-P) can be used to generate corporate green initiatives. This IO-P can be used to improve the sustainable attitudes and actions of firms, employers, and employees from an ecological perspective. The topic falls under both social psychology and strategic human resource and environmental management (SHREM) (Rose, 2014). SHRM is one of the disciplines that supports 'green' organizations. Achieving the SDGs is achieved by introducing new ecological techniques through the human capital of the organization and integrating innovative sustainable strategies. SHRM explores its key role in creating a sustainable working environment and contributing to the achievement of the SDGs (Chams and García-Blandón, 2019).

3. Methodology

The research is exploratory in nature, so at this stage, the authors looked at companies where communication with their employees is considered to be of key importance (these companies are called "leading companies"). They are defined as having received for two consecutive years at least one of the awards/recognitions studied. The basis of the methodology is the awards and programs which, year after year, focus on the outstanding, exemplary activities of employers and workplaces in contemporary Hungarian business life, and rewarded organizations that demonstrate results. As the names of "Most Attractive Employer", "Most Likeable Workplace", "Best Workplace" and "Most Attractive Workplace" awards indicate, each of these organizations tries to further position the award-winning organizations by varying the "buzzwords" that are common in the labor market. From the ones above, the award of "Most Attractive Employer" has been announced since 2021 based on the list of "Top Employers" based on (former) employee ratings (by www.munkahelyeink.hu), while the " Most Likeable Workplaces" award has been awarded since 2017 based on public votes and/or the opinion of a professional jury (by DreamJo.bs). The "Best Workplace" award is based on anonymous feedback from employees and was introduced by AON from 2001-2018 and Kincentric (Kincentric Best Employer) from 2019 (sponsored by AON), and the "Most Attractive Workplace" award has been given annually since 2017 based on a survey of nearly 25,000 respondents to the 3 most outstanding organizations in each industry (sponsored by PwC Hungary). To provide an objectively established approach and framework for the research, the authors looked at which organizations were in the spotlight for these awards in 2021 and 2022. Among the 46 organizations (2021) and 48 organizations (2022) that were shortlisted, where overlaps were found - the authors assumed that the organizations that are outstanding in both years and worthy of an award are the ones that wish to be visible in the labor market in a conscious way, not as a one-off but as a balanced and recognizable strategy. Companies included in the study are as follows (in alphabetical order): Aldi Hungary, Audi Hungaria, BMW, Bosch Group, British Petroleum, Coca-Cola, Egis, GE, IKEA, LEGO, Lidl Hungary, Mercedes-Benz, Microsoft Hungary, MOL Hungary, Morgan Stanley, MVM Group, OTP Bank, PENNY, Procter & Gamble, Richter Gedeon, RTL Hungary, Samsung, SPAR Hungary, Vodafone, Samsung, Procter & Gamble, Richter Gedeon, RTL Hungary, Samsung, SPAR Hungary, Vodafone. The research focused on these 25 organizations: the aim was to find out how they present the elements that can be identified with the concept of "green jobs" on three platforms and communication channels that are considered to be of high importance (their website, their job advertising aggregator site on the website www.profession.hu, and their LinkedIn page). Current job advertisements were reviewed between 17 and 24 July 2023.

Profession is Hungary's leading job portal, founded in 2002 by three young entrepreneurs. Their idea was simple: to make it possible to search for jobs from one place. After the initial success, the entire team was taken over by the media company Sanoma three years later. In 2014, the job portal was acquired by Central Media Group as part of the Sanoma portfolio. One year later, they became part of the international portfolio of Swissbased Ringier Axel Springer Media AG, and in 2021, as a result of a transaction between the two parent companies, the Swiss Ringier Group acquired the shares of German Axel Springer in Hungary. In the meantime, they have also built an effective team: they won the Best Workplace award in 2017, 2018, and 2020, and again in 2021. The number of employees is 232 (2022).

LinkedIn is the world's largest professional network, with more than 930 million users from around 200 countries. The company's mission is simple: to connect the world's professionals so they can be more effective and successful. Founded in 2003, LinkedIn today has a diversified business (revenue from user subscriptions, advertising sales, and recruitment solutions). In December 2016, Microsoft completed the acquisition of LinkedIn, bringing together the world's leading professional cloud and the world's leading professional network. The number of employees falls into the category of 10 001+ (2022).

First, a comparison was made between this list and a set of companies that can be considered leaders from the perspective of sustainability. A narrowing comparison was made with (a) CSR Hungary's list of trademark users and (b) the winners of the "Money Back through the Window" Program. These two awards were chosen because they are both Hungarian initiatives, and they take into account the specificities of the country. Moreover, Money Back through the Window Program focuses specifically on environmental issues. First launched in 2008, CSR Hungary is the result of an independent, grassroots initiative in Hungary, ahead of European awards. They assess Hungary's most outstanding responsible and sustainable initiatives, projects, and management systems in the business sector, aligning local values with international professional needs annually. Two of the companies on our list (Lidl Hungary and Samsung) were found in their database.

Since 2002, under the Money Back through the Window Program, the KÖVET Association, a public benefit organization founded in 1995 by 26 companies that consider responsible operation and environmental protection important, has been collecting environmentally and economically beneficial measures, projects, and investments annually. Through case studies, they show that spending on environmental protection is not "money down the drain" (i.e. unnecessary expenditure) but can also provide a financial return and economic benefits for environmentally conscious businesses and organizations. Three companies (MOL, OTP, EGIS) were among the most recent winners. As a result, in addition to the extended list (25 companies), and a detailed analysis was made on the data of EGIS, Lidl Hungary, MOL, OTP, and Samsung, which are on the shortlist of the program.

4. Results

24 of the 25 companies surveyed had some kind of sustainability-related information on their website. Some of the companies have sustainability information in a separate menu item or on a sub-page (e.g. Lidl Hungary), while others have sustainability information only on the English-language website of the parent company (e.g. Microsoft Hungary). The content and structure of the sustainability information on the websites were very diverse: some companies only uploaded related documents (e.g. AUDI Hungaria), while others also included news on sustainability (e.g. Penny). The direct sustainability link with employees was typically expressed through the acceptance of diversity - i.e. a social sustainability goal (e.g. Aldi), while in other cases, the focus was on health and safety (e.g. MOL). Specifically, concerning employees, green thinking was present in the following companies' websites and job advertisements on Profession.hu (with varying depth and scope of content, as being typically indicatives of the organizational culture and practices):

- Audi Hungaria: identifying employees as stakeholders and involving them in processes and communication, related to environmental protection and energy efficiency
- Bosch Group: (in a specific job advertisement) "good access to local public transport"
- Coca-Cola: The green idea is also "working towards our vision of a World Without Waste, and more".
- Egis: "An important part of our environmental policy is to ensure that our employees work in an environmentally responsible way. Environmental education and the so-called "green inspections" at our plants are now part of our daily routine."
- Lidl Hungary: (job advertisement) "100 % reimbursement of the cost of public transport to work"
- Magyar Telekom: "In our company's sustainability activities, shaping the awareness of our employees plays
 a key role. Telekom provides employees with the opportunity to travel in an environmentally friendly way in
 Budapest and at its rural sites, and in the spirit of sustainability, remote work has been introduced, and

employees are provided with the technological background for conference calls, which saves thousands of kilometers of travel every year."

- OTP: (in the job advertisement) "Work can be done in a category A office building"
- Penny: "Since the environment is really important to us, PENNY is rolling with green cars. Of course, we
 don't mean the color of the car on that, but about the fact that we have replaced more than 10 % of our fleet
 with hybrid and electric cars to reduce the environmental impact of our vehicles. Thanks to these cars and
 the conscious attitude of our colleagues, by the end of 2022, we will have achieved our fleet targets, with
 average consumption reduced by 3 %."
- Vodafone: (job advert) "New green digital headquarters with almost zero emissions thanks to solar panels installed to power the building with renewable energy."

Looking at job ads on LinkedIn, references were found to green features on the websites of the following companies:

- Aldi Hungary: (listed in the "Commitments" section at the end of the job advertisement) Environmental sustainability, "We are taking unique steps at the national and the regional level to protect the environment, to be sustainable, and to reduce our ecological footprint. We are constantly working to keep the environmental impact of our operations as low as possible. Think of our solar-powered shops, e-charging stations, e-trucks, to name a few. Our long-term sustainability efforts cover all our activities and the whole of our value chain."
- Audi Hungária: (in the job advertisement under the section "What we offer") "Our factory in Győr has been CO₂-neutral since 2020, and we remain committed to sustainability."
- BMW: (listed in the Commitments section of the job advertisement) "As we transition to electromobility, there's a growing need to close material cycles. The road ahead leads us further away from the outdated "take, make, waste" principle and towards circularity. Only when we reach this destination will our approach to sustainability be complete. This is why the BMW Group is working on keeping the resources for vehicles in a closed-loop cycle. To protect and preserve the environment, to reuse valuable resources multiple times, and to ensure that nothing ends up going to waste this is what we understand as a circular economy. The BMW i Vision Circular shows how a compact, all-electric vehicle focused on sustainability and luxury could look in the future. The principles of the circular economy shaped this vision of the future, in which vehicles are manufactured entirely from secondary materials and are 100 % recyclable."
- Bosch Group: (the job advertisement mentions the accessibility of the place of work by public transport, or bicycle) "Easily accessible by public transportation or by bicycle – parking, and bike racks are available"
- MOL Magyarország (Hungary): "Do you want to participate in the Green Transition? Are you interested in
 how environmental protection is managed in the oil and gas industry?" However, there is a green job
 advertisement (Group Environment and E&P Business Support Expert), while other job advertisements do
 not have a green idea included.
- Vodafone: (the following was found in the company description) "We're working hard to build a better future. A more connected, inclusive, and sustainable world. (...) A key pillar of Vodafone's purpose is to reduce our environmental impact and help society decarbonize. At the heart of this approach is using digital technology to save energy, make more efficient use of natural resources, and create a more circular economy to reduce e-waste. Vodafone's environmental and sustainability goals focus our efforts where we believe we can have the greatest impact. In July 2021, all the grid electricity we used in Europe was matched with renewable sources. By 2025, we aim to match 100% of the electricity we use globally with renewable sources. By 2030, we aim to reach net zero emissions from our operations and from the energy we purchase and use (Scope 1 & 2) and reuse, resell, or recycle 100% of our network waste. As a leading provider of IoT solutions, we are helping our customers to reduce their carbon emissions through green digital solutions. By 2040, we aim to reach net zero emissions across our full value chain (Scope 1, 2 & 3). Our circularity strategy is designed to increase consumer awareness of product sustainability, prolong the life of existing devices, and increase the range of refurbished devices."

The key economic data for the shortlisted companies are shown in Table 1. All the examined companies can be considered as large and have been operating in Hungary for at least two decades.

The websites of the companies were reviewed in more detail, reading uploaded brochures, watching videos, and looking for information that connects green thinking and employees.

• An anonymous reader review posted on the Egis Pharmaceuticals website says: "It's a pleasure to come here!", "It feels so good to walk through here!" "I went on maternity leave and when I came back, I hardly recognized the old surroundings from my memories: beautiful flowers and evergreens everywhere...- is what is often said, for example, by the employees of our factory on Keresztúri Street. As workers, we feel exactly how much it contributes to their daily comfort to be surrounded by well-designed spaces in the building where we spend our days.". It is therefore noteworthy that the company does not emphasize a green working environment in its job advertisements.

- Lidl Hungary's slogan on the sustainability subpage: The people included in the terms "Good for the planet", "Good for people" and "Good for you" stand for "partners, colleagues". Specifically, it means "we continue to provide our employees with the best working environment for personal empowerment, equal opportunities, teamwork, and efficiency. Throughout our supply chain, we ensure unconditional respect for human rights, labor, and animal welfare standards. We also support our employees and customers to act more responsibly and sustainably." This is an interesting approach because the company believes that the prospective employee will not search this site, it is for the customers, they are the focus.
- MOL provided very detailed and high-quality data to assess its sustainability performance, in which it also sees its employees as partners: "The long-term success of our company depends to a large extent on the quality and commitment of our workforce. We, therefore, use a range of tools to improve working conditions, improve health and safety performance, and address other issues raised by employees to increase engagement." However, the vision of a carbon-free oil company does not appear in the advertisements.
- The OTP website had a lot of information about its sustainability efforts, but no promotional video mentions employees.
- Samsung's English site presented a detailed sustainability vision, but the green idea and employees were not directly linked.

Table 1: Details of highlighted companies [Source: ceginformacio.hu and webshop.opten.hu]

	Industry	Year of Initiation	Number of Employees 2022	Subscribed Capital (HUF) 2022	Net Turnover (HUF) 2022
EGIS	pharmaceutical	1950	3,712	7,785,715,200	196,176,003,000
Lidl Magyarország	retail	2003	7,676	64,200,000	1,193,000,000,000
MOL	oil	1991	4,424	102,428,680,000	3,858,457,950,000
OTP	bank	1949	10,252	28,000,000,000	1,669,655,000,000
Samsung Electronics	electronics	1989	1,288	7,529,990,100	1,180,925,030,000

5. Results and Discussions

The authors were looking for answers to the question of how organizations that have won various professional awards that take CSR aspects into account validate their practices and achievements communicated in their sustainability reports during the acquisition of talent, i.e. whether "green job" elements appear in the job descriptions of advertised jobs. The winners of four Hungarian employer branding awards (25 organizations in total) were examined according to the sustainability elements they communicate on their official websites and whether they include "green elements" in their LinkedIn profiles or their current job advertisements on Profession, either as an expectation of the potential employee or as an offer in the organization's job description. Unfortunately, similarly to the findings in the international literature, the present study also found that, although the "green consciousness" of the Y and Z generations dominating the labor market is outstanding, the organizations surveyed did not put enough emphasis on demonstrating these thoughts and ideas in practice, as a part of their comparative advantage. Of the 25 companies surveyed, 24 had sustainability-related content on their website, but only 7 had a specific link to employees. On LinkedIn, 23 companies had job advertisements, 6 of which had some sort of green content in the company presentation or job characteristics (e.g., transport). On Profession, 18 companies had job advertisements, two of which had "green" content related to working conditions. The results of our study suggest that a large proportion of leading employers do not or hardly communicate their company's efforts towards environmental sustainability, especially in their advertisements on Profession. A limitation of the research is that the sustainability information on the website is in different locations, depths, and structures, which can lead to data loss. In this research, information available to the external observer (potential employee) was processed, and reports or longer technical analyses weren't analyzed. Job advertisements were reviewed at weekly intervals, so their content may not give a complete picture of the content of job advertisements.

6. Conclusions

The study examined the prevalence and content of the "green concept" in the labor market embedded in an international literature framework, focusing on organizations operating in Hungary. The most important finding

of the research is that, typically, job advertisements from leading companies do not include "green thinking", even though it seems clear from the literature that "green thinking" should be part of a complex system, with the employee as a prominent actor.

The research problem can be reformulated by a reversed approach i.e. by analyzing the companies whose job advertisements do include "green thinking".

References

- Ambler T., Barrow S., 1996, The employer brand, Journal of Brand Management, 4, 1-22.
- Amrutha V.N., Geetha S.N., 2020, A systematic review on Green Human Resource Management: Implications for Social Sustainability, Journal of Cleaner Production, 247, 119131.
- Backhaus K., Tikoo S., 2004, Conceptualizing and researching employer branding, Career Development International, 9, 501-517.
- Chams N., García-Blandón J., 2019, On the importance of sustainable human resource management for the adoption of sustainable development goals, Resources, Conservation and Recycling, 141, 109–122.
- Greening D.W., Turban D.B., 2000, Corporate Social Performance as a competitive advantage in attracting a quality workforce, Business & Society, 39, 254–280.
- Hashim H., Zubir M.A., Kamyab H., Zahran M.F.I., 2022, Decarbonisation of the Industrial sector through Greenhouse Gas Mitigation, Offset, and Emission Trading Schemes, Chemical Engineering Transactions, 97, 511–516.
- Junça Silva A., Dias H., 2023, The relationship between employer branding, corporate reputation and intention to apply to a job offer, International Journal of Organizational Analysis, 31, 1-16.
- Kryger Aggerholm H., Esmann Andersen S., Thomsen C., 2011, Conceptualising employer branding in sustainable organisations, Corporate Communications: An International Journal, 16, 105-123.
- McLeod C., Waldman J., 2011, The HR Trailblazer: Unlock the potential of your employer brand in a digital age, McLeod C., Waldman J. <www.eBooklt.com> accessed 29.07.2023.
- Miles S.J., Mangold W.G., 2014, Employee voice: Untapped resource or social media time bomb?, Business Horizons, 57, 401-411.
- Makhloufi L., Vasa L., Rosak-Szyrocka J., Djermani F., 2023, Understanding the Impact of Big Data Analytics and Knowledge Management on Green Innovation Practices and Organizational Performance: The Moderating Effect of Government Support, Sustainability, 15, 8456.
- Nanjundeswaraswamy T.S., Bharath S., Nagesh P., 2022, Employer branding: design and development of a scale, Nanjundeswaraswamy T.S., Bharath S., Nagesh P. https://www.emerald.com/insight/content/doi/10.1108/JEAS-01-2022-0012/full/html accessed 28.08.2023.
- Puncheva-Michelotti P., Hudson S., Jin G., 2018, Employer branding and CSR communication in online recruitment advertising, Business, 61, 643-651.
- Radácsi L, 2011, A közép-európai CSR-paradoxon (in Hungarian), The Central European CSR paradox, Harvard Business Review, 28-39.
- Rose K., 2014, Adopting industrial organizational psychology for eco sustainability, Procedia Environmental Sciences, 20, 533–542.
- Sharaai A.H., Masri M.F., Rezaei Kalvani S., 2022, The Social Impact Study through the Life Cycle of Rice Production at Selangor, Malajzia, Chemical Engineering Transactions, 97, 517-522.
- Schivinski B., Dabrowski D., 2016, The effect of social media communication on consumer perceptions of brands, Journal of Marketing Communications, 22, 189-214.
- Sommer L.P., Heidenreich S., Handrich M., 2016, War for talents-how perceived organizational innovativeness affects employer attractiveness, R&D Management, 47, 299–310.
- Tsironis G., Daglis T., Tsagarakis K.P., 2022, Social Media and EU companies' engagement in Circular Economy: A linkedin approach, Sustainable Production and Consumption, 32, 802–816.
- Vetráková M., Hitka M., Potkány M., Lorincová S., Smerek L., 2018, Corporate Sustainability in the Process of Employee Recruitment through Social Networks in Conditions of Slovak Small and Medium Enterprises, Sustainability, 10, 1670.