

GAMIFICATION STRATEGIES TO INCREASE EMPLOYEE ENGAGEMENT INTO SUSTAINABILITY

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Abstract

Faced with a climatic crisis and economic pressure, companies are more and more involved into adopting sustainability strategies. Implementation of sustainability practices can become a global challenge, but for a real impact its crucial that employees are involved actively. Unfortunately, many organizations have difficulties motivating the workers to take part in such initiatives (Aguilera et al., 2021). This study explores the field of gamification and how to stimulate employee involvement into sustainability practices, transforming these initiatives into an attractive and interactive process. By integrating playful mechanism, such as rewards and real time feedback, organizations can increase the employee participation and consolidate sustainability culture among them (Aragón-Correa & Sharma, 2003). Our study aims to validate this if there is any potential impact of gamification over sustainability behaviours among employees for the Romanian labour market.

Keywords: *employee gamification, corporate sustainability, employee sustainability, internal marketing*

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1. Introduction

Sustainability represents an essential and social objective, which aims the development of all companies on the medium and long term premises. The three pillars of sustainability, the political, economical and environmental factors show that sustainability not only limits to an efficient strategy for the environment protection, on the contrary, it includes social and economic issues, which can influence both the companies and the community on a long run. (Maria Stancu, 2024)

For example, in 2024, the study named „Romanian attitude towards sustainability” emphasizes major changes in the consumers and employees behavior. In Romania, more than 50% of the employees stated that they wish their employers be much more involved in the environmental protection. This suggests that there is expected that the labour force implement sustainable policies.

Currently, international organisations such as UN and European Commission considers sustainability to be essential in the transition to a circular economy, emphasizing that the private sector has a major role in this process.

In order to understand better the importance of sustainability in the business environment, we can also consider the UN sustainable development goals, which boosts the organizations to implement policies that both reduce the environmental impact, and promote equitable and inclusive economic development.

2. Research objectives

Our first objective is to propose a basic theoretical framework regarding how organizations can involve their employees into corporate sustainability efforts through gamification.

A secondary objective covers the potential discovery of gamification strategies, ideas or applications in order to provide better employee engagement while increasing their loyalty to the brand because of its implications into good social and environmental practices meant to reduce production impact.

3. Issues addressed

The main issue addressed is a low engagement rate of employees regarding sustainability. In contrast they recognize the high importance regarding an organizational impact over society and environments (Norton et al., 2012). We suppose that in Romania the engagement rate is low too.

4. Theoretical framework

When we discuss about employees and sustainability it's important to raise our attention towards two dimensions: sustainability at the working space and sustainability affinity as a daily basis (after work). Workspace sustainability means when the organization offers a proper space with care for the working environment as a component regarding their ESG strategy. More on that, office design is planned accordingly with employee needs (Fauth &

Pieper, 2022). In a former paper (MATAC et al., 2024) one of the current work's authors showed the role of accountants into ensuring legal compliance with corporate sustainability legislation.

Sustainability, from a point of view as a day to day behaviour is the case-scenario when people's behaviours are driven to a change in order to keep the consistency into being responsible with the medium. On the other side, ESG sustainability is even more focused on environment, social and governance which are the abbreviation components. The ESG term was discussed first time in 2004 in an United Nations Global Compact report that is no longer available on the official source but can be downloaded from some online archives. ESG thematics became more and more important into European space once the European Corporate Sustainability Directive was introduced into legislation (MATAC et al., 2024).

The first research decision to be made is to choose between researching employee engagement into sustainability within their current workspace (at a personal level) or employee engagement at corporate level aspects regarding the impact it produces for the environment, society at all and how it is managed. We believe that companies are used to follow the profit, workers to follow the personal gains and the intersection of both can result into following the synergy between these two for a social purpose.

We aim to analyze multiple gamification theories, application ideas regarding environmental and climate projects made by companies even before the Corporate Sustainability Reporting Directive (CE, 2024).

As climate change and environmental degradation become a pressing issue, companies have to adopt sustainable strategies in order to keep their customers and to avoid sanctions. Sustainability in business refers not only to reducing the impact on the environment, but also to the implementation of practices that meet the economic and social needs of organizations. However, for these practices to be effective, employees must be actively involved.

Many organizations are trying to implement green strategies but their employees are not always motivated to actively participate (Aragón-Correa, 1998). This is the context where gamification becomes an innovative approach transforming sustainability into an interactive and attractive process for employees (Aragón-Correa & Sharma, 2003). Gamification consists into introducing game elements such as rewards, challenges and feedback. That way, employees are encouraged to participate more actively into company's green initiatives increasing short term commitment and forming an organizational culture for the long term (Aguilera et al., 2021).

5.Challenges of sustainable practices at work

Although the benefits of sustainability are obvious, the implementation of this practices faces a series of major challenges. In the following we will discuss each with academic support.

Resistance to change is a well known issue because many employees and managers are accustomed with the new sustainable technologies and practices, and the change may be perceived as an additional effort. (Michael Adelusola, 2024)

Lack of motivation might be another major obstacle, especially if it is the lack of a reward system for that employees adopting a sustainable behavior. Studies show that the moment the rewards are clear and direct, the employees are more motivated to actively participate at this process. (Oana, Cosman, 2024)

Another challenge is a lack of a clear framework for measuring the produced impact. It is very complicated to demonstrate the success of green initiatives without the support of a monitoring process system. (Aryamol et al, 2024)

6.How gamification can support sustainability initiatives

Gamification, by integrating the playing elements in the daily routine of employees, can seriously increase their involvement in sustainability initiatives. This type of approach changes sustainable behavior into an interesting and competitive game, which encourages employees to adopt new habits (Sorin Burlacu, 2020).

Leaderboard and badges can be used in order to give recognition and reward to those employees adopting sustainable behavior. Internal competitions between departments for reducing resource consumption are an efficient way of encouraging employees to adopt sustainable behavior.

Rewards for innovation are another scheme that can incentivize workers to get involved(Sarbat, I., Tasan, S.O., 2022). As a success example is it worth to mention Unilever who has implemented a system based on points in order to reduce the waste of water, and the results were impressive, a 20% cut in water consumption in the first year. This is an example of success where gamification has contributed to achieving a significant sustainable issue.

Lowensteyn et al. (2019) discovered several gamification tools useful for workspace sustainability. We noted several gamification techniques like:

- goals setting,
- leaderboards,
- awarding badges, c
- competing in challenges,
- generation of social influence.

7.Measuring the impact of gamification strategies on sustainability

In order to assess the efficiency of gamification strategies in promoting sustainability, it is imperative that we use the some relevant performance indicators that are aligned with the organization`s sustainability strategy.

Reducing resource consumption

This KPI measures the direct impact of sustainable activities on natural resources savings, such as water, energy and paper. For example, if a company implements a saving energy policy, time monitoring this consumption is essential in order to assess the success of the initiative. (Gupta, A. & Jangara, S., 2024)

Measuring the employees rate of participation to sustainable initiatives is another important KPI.

A gamification program can evaluate the number of employees attending competitions focused on reducing energy and recycled consumption.

It is crucial for the employees to give feedback concerning the gamification program efficiency. This may include anonymous surveys measuring both the employees motivation and satisfaction and regular assessments of progress (Xiao, H., et al., 2022). Studies from Central and Eastern Europe have emphasized that the companies adopting interactive measures, such as those based on gamification, can eventually reduce carbon footprint and achieve important savings in the resource consumption. This examples demonstrate the efficiency of gamification, as a tool used in promoting sustainability.

8.Sustainability of working spaces

Having a sustainable working space means having access to shared resources (Oswald & Zhao, 2020). Accordingly to Fauth & Pieper (2022) a sustainable office circles around physical, functional and psychological needs. Physical needs involves aspects regarding senses: visual confort, noise protection, spatial acoustic, climate confort. We discovered in practice another physical need: ambiental scent as some offices as well as shopping centers are using air fresheners to influence the ambiance and establish emotional ties between the brand and employee (RAO & Jetti, 2020).

Regarding air fresheners and sprays, some studies showed they must be reduced as much as possible because usage of these devices has been linked with increased diseases, asthma attack and other health-issues, especially the ones with high emissivity of ultra fine particles (Karr et al., 2021). This being said, not any climate improvement is actually a sustainable measure but could be perceived as such by specific people while others may perceive it as a problematic concern.

The sustainability of a working space can be categorized to material, technological, informational needs as stated in Lowensteyn et al. (2019).

Other researches classified sustainability resources in relation with self and organization resulting into a group-level resource obtained through team work and by building social capital, organization-level resources by supporting traineeships, problem solving tools at an individual level and transformational leadership skills as a leader-level resource (Nielsen et al., 2010)

Having these into consideration we can define workspace sustainability as a set of needs employees have, all kind of resources they can use all with a final scope of well-being and at the same time for a higher productivity.

9.Employees and ESG sustainability

A higher level of sustainability takes place at the corporate level in relation with its stakeholders and all impacted individuals at a global scale at the same time.

A study referring to gamification principles aiming increased support in wellness shows evidence that gamification may increase long term participation among workers

(Lowensteyn et al. (2019)). Gamification strategies made employees stay supportive to the new changed behaviour even in the absence of financial incentivization. One possible limitation to their study is the subject of wellness itself. Individuals may be more concerned with their own state rather than a global impact produced by the activity of the company where they work. It is work to study how people feel and associate/disassociate with the corporation regarding medium impact.

10.Methodology or approach

Our methodology is based on literature review and mapping of current state for CSR, ESG, sustainability, gamification, pro-environmental organizations and applications of gamification in companies for their employees.

Based on the theoretical frameworks discovered, we designed a quantitative survey in order to collect information about how employees intend to engage into sustainability policies among their companies without and with gamification and what applications can integrate them better into such work activities.

For the data collection process we used LimeSurvey because it allowed us to use variables for question answers.

11.Results

Gamification can be a very powerful tool in promoting sustainability at work, because it can turn sustainable behavior into an interesting and competitive activity. By using interactive strategies, companies can highly motivate their employees to play an active part in the process of reducing the impact on environment, creating though significant economical and environmental benefits.

Our participant sample was composed of 150 respondents, having demographic and educational characteristics that provide a solid basis for analyzing behavioral intentions and receptivity to alternative methods of motivation. The occupations were extremely diverse: marketing, education, IT, medical fields, automotive, advertising, public administration, students, etc., situation that provides an interdisciplinary basis for our results interpretation.

The questionnaire consists of 41 questions, as following in the table.

1.Summary for Age	
under 18 years	0.00%
18-24 years	17.65%
25-34 years	39.71%
35-44 years	19.12%
45-54 years	19.12%
over 55 years	4.41%
2.Summary for Gender	
Male	36.76%

Female	63.24%
Other / Not answering	0.00%
3.Summary for Marital Status	
Married	42.65%
Not married	55.88%
Divorced	1.47%
Widow	0.00%
4.Summary for Education(the highest level of education	
No studies	0.00%
Middle school education	0.00%
High School	7.35%
Bachelor	16.18%
Master s Degree	67.65%
PhD	8.82%
5.Summary for Residence	
Urban	89.71%
Rural	10.29%
6. What does sustainability mean? (select all that apply)	
Being mindful of the environment	94.12%
Social awareness	83.82%
Reduction in consumption due to production	69.12%
Using resources in a way that does not compromise the needs of future generations	91.18%
Promoting social and economic equity	58.82%
Creating sustainable and recyclable products	89.71%
Maximizing profit at any cost	4.41%
Rapid and unlimited consumption of resources	5.88%

Unlimited access to resources	4.41%
7. What field do you currently work in?	
Marketing	
University	
IT	
Hotels, restaurants and coffe shops	
Student	
Education	
Health	
International Affairs	
Psychology	
Economic	
Sales	
Advertising	
Research	
Human Resources	
Digital Marketing	
Game testing	
web development	
Customer service	
8. My company has a sustainability strategy	
Total disagreement	0.00%
Disagreement	4.41%
Neutral	45.59%
Agreement	27.94%
Total agreement	22.06%
9. My company's strategic decisions are hevily influenced by sustainability	
Total disagreement	1.47%
Disagreement	1.47%
Neutral	76.47%
Agreement	14.71%
Total agreement	5.88%

10. It is really important that the organization I belong to gets involved in social responsibility actions.	
Total disagreement	0.00%
Disagreement	8.82%
Neutral	5.88%
Agreement	41.18%
Total agreement	44.12%
11. Some social responsibility actions are pointless/useless.	
Total disagreement	19.12%
Disagreement	35.29%
Neutral	17.65%
Agreement	26.47%
Total agreement	1.47%
12. The company I work for is transparent about its impact on the environment, including when that impact is negative.	
Total disagreement	4.41%
Disagreement	8.82%
Neutral	27.94%
Agreement	38.24%
Total agreement	20.59%
13. Do you think rewards should be implemented for sustainable behavior?	
Yes	82.35%
No	11.76%
Don't know	5.88%
14. How motivated would you be to participate in an internal competition that rewards sustainable behavior?	
Very little	2.94%
Little	7.35%
Neutral	41.18%
Much	33.82%
Very much	14.71%

15. Initiatives to introduce internal games or competitions can increase my colleagues' involvement in sustainability.	
Very little	0.00%
Little	4.41%
Neutral	36.76%
Much	39.71%
Very much	19.12%
16. My colleagues are involved in sustainability and social responsibility initiatives.	
Very little	4.41%
Little	7.35%
Neutral	55.88%
Much	17.65%
Very much	14.71%
17. The introduction of game elements (e.g., points, badges, rankings) would make sustainability more interesting for me.	
Very little	0.00%
Little	17.65%
Neutral	11.76%
Much	35.29%
Very much	35.29%
18. I would feel more motivated to adopt sustainable behaviors if I could track my progress in a fun or interactive way.	
Very little	7.35%
Little	11.76%
Neutral	17.65%
Much	44.12%
Very much	19.12%
19. Friendly competitions between departments can encourage the adoption of green practices.	
Very little	0.00%
Little	19.12%
Neutral	11.76%

Much	35.29%
Very much	33.82%
20. Internal platforms that transform sustainable actions into games can create a sense of community and responsibility.	
Very little	4.41%
Little	4.41%
Neutral	19.12%
Much	48.53%
Very much	23.53%
21. Public recognition through digital badges or diplomas motivates colleagues to participate in sustainable initiatives.	
Total disagreement	0.00%
Disagreement	16.18%
Neutral	17.65%
Agreement	58.82%
Total agreement	7.35%
22. An internal platform with sustainable missions and real-time feedback would encourage ongoing participation.	
Total disagreement	0.00%
Disagreement	5.88%
Neutral	11.76%
Agreement	66.18%
Total agreement	16.18%
23. Recycling of 3 items	
Yes	94.12%
No	5.88%
24. Using alternative transportation for a day	
Yes	89.71%
No	10.29%
25. Using the bike for a day	
Yes	64.71%
No	35.29%

26.Reducing paper consumption	
Yes	97.06%
No	2.94%
Select Yes/No regarding the sustainability activities you are willing to get involved in.	
27. Reuse of packaging	
Yes	76.47%
No	23.53%
28. Proposing a green project by email to management	
Yes	64.71%
No	35.29%
29. Identifying areas of energy waste	
Yes	61.76%
No	38.24%
30. Involvement in volunteer activities during the program	
Yes	72.06%
No	27.94%
31. Involvement in volunteer activities outside the program	
Yes	50.00%
No	50.00%
Would you be willing to participate in the games listed below?	
32. Participation in daily or weekly missions	
Yes	70.59%
No	29.41%
33. Completing eco tasks to receive badges	
Yes	70.59%
No	29.41%
34. Completing eco-tasks and participating in various activities to earn points and track them in a ranking of sustainable employees	
Yes	69.12%
No	30.88%

35. Role-playing games in the company regarding certain sustainability decisions	
Yes	66.18%
No	33.82%
36. Workshops on eco-themed drawing or painting	
Yes	61.76%
No	38.24%
37. Searching for "ESG treasures," for example, identifying areas of energy waste	
Yes	54.41%
No	45.59%
38. Enrollment in courses on environmental and social responsibility	
Yes	58.82%
No	41.18%
39. Participation in tests and examinations on ESG knowledge	
Yes	51.47%
No	48.53%
40. The challenge wheel (spinning an interactive wheel that will make a colleague perform a challenge, for example, not using paper for a day)	
Yes	85.29%
No	14.71%
41. If you had to choose between these companies to work for, which one would you choose?	
The company with a slightly higher salary	41.18%
Company more involved in social and environmental activities	5.88%
The company with a smaller environmental footprint	10.29%
The most financially stable company	42.65%

Source: Author's own work.

One of the queries was if “My company has a sustainability strategy” on by using the likert evaluation scale on 5 levels along with other questions Almost half of the respondents had a neutral position, suggesting uncertainty or lack of clear communication from the company on its sustainability strategy.

The dominance of "neutral" at 76% at the question “My company's strategic decisions are heavily influenced by sustainability” suggests that many respondents do not perceive a visible integration of sustainability into strategic business decisions or are not sure whether it is taken into account in management decisions. Maybe the entire decisional process is not transparent within the organization.

Other questions like “The company I work for is transparent about the impact it creates on the environment” had varied responses of agreement, disagreement and neutral therefore we could not find any semnificative data.

The only quality answers obtained from the survey are related to specific activities of gamification that could lead to increased awareness and involvements into sustainability:

- 59% believe that the introduction of games or competitions would increase peer involvement.
- over 71% of respondents believe that points, scores, badges makes sustainability more interesting.
- 63% consider that possibility of progress tracking would help.
- 70% believe that challenges are a good way to initiate sustainable activities.

Participants are generally open to getting involved in sustainable actions, especially if they are integrated into the work schedule or involve minimal effort. Willingness drops significantly in the case of extra-curricular activities or activities involving a high degree of personal commitment.

We managed to obtain a ranking of *sustainability activities where employees are more interested* in based on their responses.

- Reduction of paper consumption: 97.06%
- Recycling 3 objects: 94.12%
- Using alternative transport for a day: 89.71%
- Reuse of packaging: 76.47%
- Involvement in voluntary activities during the program: 72,06%
- Cycling for a day: 64.71%
- Green project proposal by e-mail to management: 64.71%
- Identification of energy wasting areas: 61.76%
- Involvement in voluntary activities outside the program: 50,00%

Regarding *gamification*, we obtained from all the survey responses a ranking based on the answer percentages.

- Challenge Wheel (random challenges to colleagues by a spinning wheel): 85.29%
- Participation in daily or weekly missions: 70.59%

- Solving ecological tasks and receiving badges upon completion: 70.59%
- Completing ecological tasks and accumulating points to rank in a leaderboard: 69.12%
- Company role playing on sustainability decisions: 66.18%
- Drawing and painting workshops with ecological thematics: 61.76%
- Participating in lessons about environmental and social responsibility: 58.82%
- Searching for "ESG treasures" in organization (e.g. identifying energy waste areas): 54.41%
- Participation in ESG examinations for knowledges: 51.47%

The key information of the current study consists into many representations and perceptions that sustainability has in the black box of the employee - their mind. The more we dive in the research the more limits and issues arise and more research with various qualitative and quantitative tools is needed.

Not all employees fully understand what sustainability does, what is an ESG policy, how organizations impact the 3 pillars and why they have to find the optimal balance between profit and footprint.

Not all companies are transparent regarding their social-environmental impact even if the CSRD European directive will impact every kind of organization as it already started with big corporations and will continue until SMEs in 2026 (Matac et al, 2024).

The lack of transparency is not only external but also internal as lower level employees do not know how their activity is impacted by sustainability decisions.

12.Future research and limits

As stated in first part, it is necessary to examine the engagement rate of employees into sustainability practices in Romanian labour market. More than that, a transversal research on several years is a research must have project that is currently missing.

Before starting the data collection, we identified there are some barriers that could make employees unwilling to act in a sustainable manner. Some may think that a socially responsible policy might involve even more work to be done at the office. These barriers are hard to detect because respondents could present biased information and probably they will avoid expressing their real issues. Stating unpopular opinions regarding sustainability could make them look selfish. These barriers could be another field of research.

Another limit discovered during research is the relation between employee well-being and organizational performance because a low team climate is affecting overall likelihood to involve in sustainable practices within organization (Nielsen et al., 2010).

The majority presence of women (over 60%) in the sample may positively influence the openness towards sustainability values, in line with the literature that associates the female gender with a more pronounced inclination towards pro-social and environmental values.

Lastly, one of the most interesting limitations we discovered during data collection was regarding employees that work in more technical jobs or with an under average educational level because the most of them did not know the meaning of such terms as "sustainability"

and “gamification”. For us, the researches, these terms might become regular but there are categories of worker that have never interfered with them.

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