

How Gamification and Behavior Science Can Drive Social Change One Employee at a Time

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Abstract. This paper discusses the use of interactive technology and gamification at companies to drive positive behavior change at scale around the topic of sustainability and corporate responsibility. While game and social based learning is still a relatively new concept for companies, our research and experience in the marketplace has shown that it can be effectively used to bridge the education gap among employees to help translate complex environmental science and ideas into a framework that people can understand as well as understand their own personal impact.

Keywords: Behavioral science, gamification, corporate sustainability, persuasive technology, game design.

1 Introduction

Practically Green is a pioneer in the use of interactive technology and gamification to drive positive behavior change. As a leading provider of sustainability engagement programs in North America and around the world, Practically Green motivates, empowers and quantifies the real-time impact of employee sustainability efforts both in the workplace and the communities where they live. Practically Green's clients include Fortune 500 companies, as well as sustainability leaders like EnerNOC and Seventh Generation.

Started in 2010, Practically Green was built with the goal of providing a solution to help motivate people to change their behavior associated with daily choices related to health and sustainability. For example, saving energy, saving water, reducing waste, and participating in the local and shared economy. Unlike weight loss or fitness, there are no official guidelines or shared scale for personal sustainability. As a result, Practically Green is at the forefront of pioneering the use of persuasive technology, social mechanics and game mechanics to drive positive behavior change at scale, and bringing it to a subject matter—sustainability—which was previously seen as something difficult and hard rather than measurable and fun.

The Practically Green platform was originally designed for individual networks, but about a year into the consumer program, companies saw the promise of using the platform at their company and approached Practically Green about creating a corporate version that would motivate and engage employees to help them meet their

sustainability goals. In 2011, Practically Green tailored the platform to be used in an enterprise, software as a service (SaaS) model to help companies achieve sustainability success.

2 The Importance of Sustainability Employee Engagement

With the rise in corporate sustainability initiatives over the past five years, companies are quickly looking to their employees to help them meet the challenges of innovating and incorporating more sustainable business practices into their daily operations. Everything from their product pipeline to how they run their facilities. In the last year, nearly 50 percent of companies changed their business models as a result of sustainability opportunities, and in that same time, the percentage of companies reporting a profit from their sustainability efforts rose 23 percent to 37 percent, according to research by the *MIT Sloan Management Review (MIT SMR)* and the Boston Consulting Group (BCG).

As companies work to meet their corporate and financial sustainability goals, a knowledgeable and engaged workforce can lead to innovation around solving for business challenges. And yet, most employers are just starting to engage employees broadly in their sustainability mission and goals. One study by the National Environmental Education Foundation found that nearly 50 percent were planning to start an employee education initiative; however, that same NEEF survey found that most companies are not happy with the existing choices, which range from lunch-n-learns to workshops to sustainability fairs. They were often custom-built and difficult to maintain, provided no metrics and were challenging to scale in large organizations. Most most importantly, they tended to only reach the “already interested” rather than engaging a broad swath of the workforce.

The Practically Green platform has helped to bridge this education gap and barrier to engagement by pairing the best of interactive technology with the power of outstanding environmental content, which helps translate complex environmental science into a framework that people can understand. In addition, by being available in mobile and web, a broader portion of the workforce can use it and the sustainability team can measure the impact. Finally, the mechanics used make it both engaging and effective.

3 About the Practically Green for Business Platform

Practically Green is a configurable web and mobile application that allows companies to engage employees to take actions, work together as groups, earn rewards, track their personal environmental impact—as well as the impact of their colleagues—and earn points, badges and receive social recognition for their actions via leaderboards and working through various levels of green-expertise.

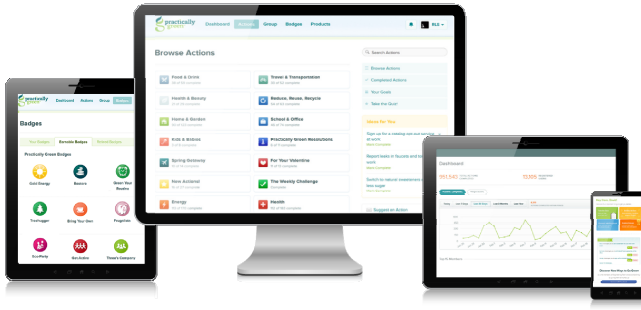


Fig. 1. The Practically Green platform (Source: Practically Green, www.practicallygreen.com)

The platform includes:

- Newsfeed to help users stay up to date on actions their colleagues are taking and provide positive feedback and comments
- A recommendation engine that suggests actions for each user to complete based on personal preferences, social graph, company priorities and action history
- Recognition elements including badges, leaderboards
- Communication tools like newsletters and alerts to enable communication between program coordinators and users
- 500 science-backed actions that have been scored with a proprietary points system by our staff scientists for environmental impact
- Comprehensive dashboard that can track and provide real-time environmental metrics

4 Behavior Design Models

Practically Green takes influences from the two main behavior design models set out by BJ Fogg of the Stanford Persuasive Technology Lab, and Robert Cialdini, Professor of Psychology and Marketing at Arizona State University and author of *Influence The Psychology of Persuasion*.

At the crux of the Practically Green platform are Cialdini's two principles of "social proof" and "liking." By making actions visible, the commitments people make helps bring visibility to everyday sustainability actions that may otherwise go unnoticed. It is helping to foster new social norms within the workplace and provides positive feedback for the individuals that participate.

Motivation within the platform takes influences from Fogg's Behavior Grid. People can enter the platform at varying sustainability abilities and map their own path to success. This includes one-time behaviors, which Fogg calls "Dot" behaviors (e.g., buying a reusable mug), behaviors that have duration, called "Span" behaviors (e.g., taking public transportation for one month), and behaviors that provide a lasting change, called "Path" (e.g., installing solar panels).

The triggers for re-engagement and continued behavior change come from the ability to like, comment, invite others to join the platform (and earn a badge for doing so), customized notifications, weekly summaries. Users are also able to share their success stories, which increases

5 Gamification in Action

In order for these behavior principles to work, however, there needs to be incentives and an element of fun for the user. This is where applying game design techniques and social tools have been introduced into the platform. Practically Green has structured the experience so that it continues to be engaging for users at all levels and areas of expertise.

1. By creating a points system based on impact, people can track their own journey and progress over time against a shared set of levels. This enables people to both celebrate their own milestones, ie “I’m now a level 5 Solidly Green!!” as well as compare themselves to others. They can also see where they are relative to other colleagues and at the group level, groups can have the same comparisons. So I may individually be top of the leaderboard, but my group may be in the middle. This can inspire an individual to start influencing others to move up the overall group.
2. By creating shared achievements, primarily in the form of badges, corporate clients are providing digital monikers of success—and in some cases they even create offline versions to award status to employee participants. For example, one client has a certified green office program and participants who earn the Green Office Badge get a sticker that goes on their nameplate. As the stickers proliferate in the workplace, more employees are encouraged to participate and take action.
3. Using the feature that can group actions and create a time-based challenge, corporations can emphasize what’s important to the company and encourage much broader participation by rewarding span-based participation, not just ‘path’ based change. An example of a clients challenge was a “ditch the cup” day that asked employees to use a reusable cup, but for just one day. Participants were all rewarded with free coffee if it was in a reusable mug. The metric for success was both overall participation and quantifying the total cups saved.

Applying game design techniques in conjunction with the behavior design principles has lead to real-time results for our clients.

6 Sustainability at Work: Is It Different from Personal Efforts

In our experience, there are aspects of being in a workplace that make elements of utilizing a digital, social platform more successful, and there are other aspects that make it challenging.

In terms of success, companies that are using the Practically Green platform have recognized the importance of sustainability and have made it a priority for their company and for the employees to participate it. When this happens, we see the social

stigma of joining in sustainability efforts go away—people are less inclined to feel judged about participating, or even having their political beliefs be questioned. The company has articulated that this effort is good for business so people feel “safe” inviting others. Whereas in a personal setting, users have expressed more reluctance to invite others because they worry that people will think they are being judgmental about the person’s lifestyle.

The challenge in a workplace is that participants may be there who are not intrinsically motivated or interested in the topic, but experience the social norming pressure to participate. As a result, the game design has to make fewer assumptions about inherent interest, especially during the first time user experience. It has also prompted our design team to think more about how we uncover what areas of sustainability might be most appealing to each user so the focus can be there. We are starting this work by developing different personas and thinking about the optimal design for each user archetype.

7 Conclusion

Although game and social based learning is still a relatively new concept, our research and experience in the marketplace has shown that behavior change at scale, across companies is possible by leveraging interactive technology. We believe that similar to the rise of wellness programs, within five years, digital sustainability engagement programs will become a core program for any responsible, innovative company.