Get results

Change behavior and focus attention with gamification

Table of contents

Everything's a game. Someone's keeping score. Everyone is measured. Gamification takes advantage of this—using behavior and measurement to enable businesses to meet goals.

Part 1: Learn about gamification

Gamification uses game design techniques—thinking, mechanics, and analytics within a business context—to change the behavior of employees and/or customers. It's not really about games. And it's much more than using the scoring elements of games in a business or educational context. Gamification focuses on measurement, behavior identification, and structured change. When implemented effectively, gamification is goal-oriented and facilitates achieving specific business objectives. It moves the business process interface to a behavior-based feedback loop that changes performance.

Since the first salesman was hired, businesses have been using techniques that are part of gamification. For example, sales personnel are all familiar with the use of public leaderboards to see how they are performing against others, sales incentives to reward desired behavior, and peer pressure to increase performance.

Gamification is not really about games. It uses game design techniques—thinking, mechanics, and analytics within a business context—to change the behavior of employees and/or customers.

Modern business techniques like the balanced scorecard embrace some of the same goals, incentives, and measurement elements that are today considered gamification.[1]

Address insight gaps

A problem many businesses face is they have goals and initiatives, but not a solid understanding of progress being made or behavior changes taking place to meet the goals. Addressing these insight gaps is at the core of gamification.

Retail organizations use "employee of the month" techniques to increase staff engagement, and loyalty programs to encourage shopper faithfulness—frequent flier programs are an example. So the concepts are not really new. However, with social and analytic tools available today and the fact that many individuals keep their computers (smartphones) with them all the time, the potential for a more formalized and proactive approach to shifting behavior is possible. We can now apply techniques that influence decisions at the time they are being made, using corporate metrics and knowledge repositories to provide detailed performance information to leaders and individual performers early enough that course corrections are possible.

The opportunities for interaction have changed as well. With the advent of virtual reality and other advanced interaction techniques, the barrier between the "real" world and a virtual/game world is more permeable. This enables new behavior modification techniques and business value generation, augmenting real-world activities with performance information. Google Glass is a recent example of how the industry is investigating merging the real world with the virtual world.[2]

One of the scarcest resources in business today is the timely attention of employees, those in leadership and individual performer roles. Thanks to information technology advances, there is an abundance of data and computing to automate normal business activities. Gamification takes advantage of analytics and automation practices and helps focus the organization's attention on what needs to be addressed, by whom and how.

[1] Kaplan, Robert and David Norton. *The Balanced Scorecard.* Harvard Business School Press 1996.
[2] google.com/glass/start

Gamification must focus on the organization's goals, behaviors demonstrated, and metrics and feedback mechanisms to adjust behavior to reach a desired result.

Better understand gamification

Gamification is not making everything a game by adding points and badges. Doing something at work, like playing solitaire at your desk, is definitely not gamification. A gamified solution may be fun and needs to be engaging, but that is a side effect; fun is not a goal in itself.

Gamification is not about using simulation (in a game-like environment) to model the real world. Simulation can be part of a serious business game, but it is not the same as gamification. This focus on modeling real interactions can be very useful and help understand human behavior in situations, but a simulation's objective is providing "the player" with a model of the way the world responds, not changing behavior directly.

A gamification effort needs to focus on the organization's goals, behaviors demonstrated, and metrics and feedback mechanisms used to adjust behavior to reach a desired result. Not all gamification experts found on the Internet agree with this relatively strict business perspective, but that is our perspective for this paper.[3]

Learn about the benefits

Gamification techniques can be applied to business opportunities like:

• Customer retention

• Employee engagement and training

• Collaboration across organizational boundaries

• Business process adoption and improvement

• Consistency and quality improvement

It is widely applicable in business and has been used to expose users to new capabilities, or train personnel on the best way to handle situations, among many others. Software development has been viewed as a target for applying gamification.[4] Specifically in project management, there are companies like RedCritter that have gamified software development and delivery management processes.[5] And while sales activities across the globe have always been gamified to some extent, even in this relatively mature area, new techniques are being applied every day to measure performance, communicate goals, and positively influence behavior.

[3] Huotari, Kai and Hamari, Juho. *Defining Gamification—A Service Marketing Perspective,* ACM October 2012

[4] Passos, E.B., Medeiros, D.B., Neto, P.A.S., Clua, E.W.G. *Turning Real-World Software Development into a Game,* 2011 IEEE Brazilian Symposium on Games and Digital Entertainment
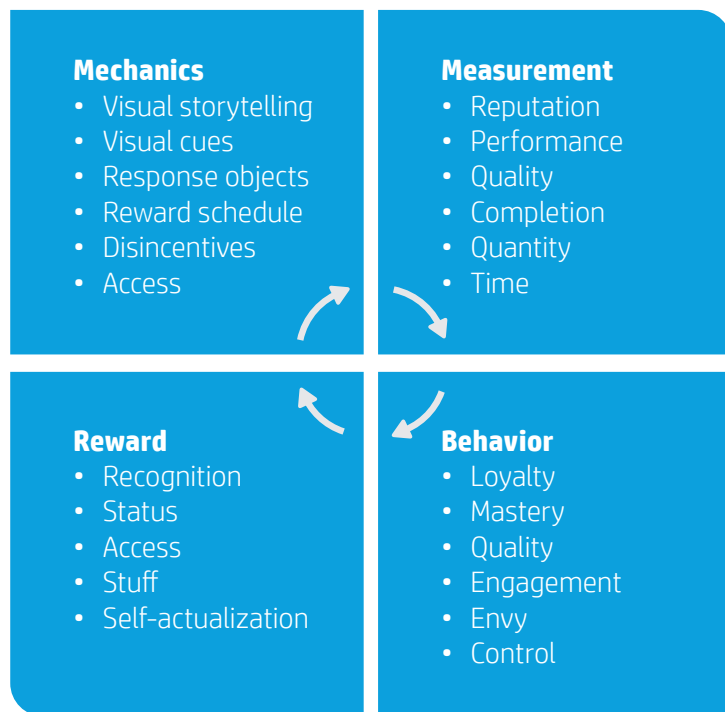
[5] redcritter.com

Review the framework

At the highest level, gamification focuses on business goals, rules, and feedback mechanisms used by "the player" and the organization.

Figure 2. Gamification framework
Organizational Goals, Players

Mechanics
- Visual storytelling
- Visual cues
- Response objects
- Reward schedule
- Disincentives
- Access

Measurement
- Reputation
- Performance
- Quality
- Completion
- Quantity
- Time

Reward
- Recognition
- Status
- Access
- Stuff
- Self-actualization

Behavior
- Loyalty
- Mastery
- Quality
- Engagement
- Envy
- Control

Not all people do the same things for the same reasons, so the rewards system must be carefully addressed.

Goals

In the model, the organizational goals' layer is the most complicated, since this is where most of the planning for the organization's and players' wants and needs are determined, and how desired or undesired change is measured.

The first step is to determine what goals need to be met. From there, determine who—the players—will be involved. These can be individual performers, organization leadership, and other affected parties. Their participation needs to be perceived as voluntary. If they feel they are being manipulated too directly, a gamification effort might be rejected.[6] It needs to be engaging, so understanding the motivation, activities, and actions involved are an important component of the effort.

Next, the metrics that most effectively describe the progress toward the goals need to be determined. Like many activities today, a gamification effort is iterative. As we learn more about the situation or as performance changes over time, adjustments to the various model elements need to be made. If, during the gamification activity process, unintended consequences (for example, cheating) are identified or there is a misalignment of goals and behaviors—make a change. Part of gamification progression is giving everyone greater insight into the goals, behaviors, and impact of actions. It is natural there will be changes as understanding develops. The elements addressing the goals are shown as a circle because gamification efforts take a few turns as they develop and mature.

[6] Brandweiner, Natalie. *Gamification: Why are marketers getting it so wrong?*, Mycustomer.com blog

Next, the behaviors, where change is desired, need to be identified. As these behaviors are determined, new players and metrics will likely be recognized. If you are looking at improving consumer loyalty or employee mastery of new skills, additional resources may be determined and embraced into the effort.

The rewards system also needs addressing. Although providing players' concrete rewards like cash are possible, not all people do the same things for the same reasons. Psychology typically divides motivations into two groups, intrinsic rewards—people feeling good about what they have done—and extrinsic reward—externally driven rewards like money and recognition.[7] Some people are very status conscious and like to have public recognition, while others do not. Most gamification efforts have a diverse framework of points, badges, and performance levels included in their reward system so players can see their progress quantitatively and compare their performance to others. The reward structure is the most likely place where unintended consequences enter the system.

Finally, there are the mechanics. Identifying the techniques to be used and how the process can be made interesting and engaging for those playing is critical. Although you don't need to have a web presence to gamify a business process, web integration and interaction techniques are typically used. Even a subtle change, like showing progress toward completion, can have a significant impact on player behavior. When LinkedIn added a résumé completeness progress bar to its interface, the amount of information added by its users increased significantly. This is probably the most sited example of the subtle nature of a progress bar and its impact on behavior.

Rules

Games are defined by rules; it doesn't matter if it is poker or tic-tac-toe. If you don't have rules or the rules don't make sense, it stops being a game. As soon as a game feels rigged or unfair, players stop playing. Communicating rules is a critical task in defining and deploying a game.

Figure 3. Gamification rules

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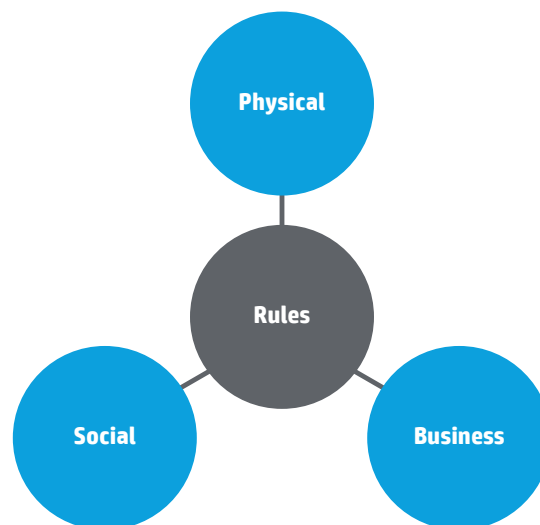
[7] Zichermann, Gabe and Cunningham, Christopher. *Gamification by Design,* O'Reilly, 2012

This means that rules need to be simple enough to be understood and don't change without a clear reason. An example of where the rules may change: A new hire does not have the privilege to load programs on a system, but a system administrator may have that capability. Once that person receives that badge (for example, job role) new rules may be applied.

Rules place limits on how players can accomplish the goals within an effort. They can free up the creativity of the player to focus on areas where it will be appreciated. For many situations, these rules are well known but may not have been codified.

There are numerous types of rules:

- **Physical rules** are contextual constraints that are rigid. Items like the number of objects that can fit within a certain volume or that gravity always pulls toward the center of mass. When defining a rule system, be careful to ensure that physical rules are not arbitrarily constraining how the game is structured. For example, it may be possible to put one gallon of orange juice in a one pint container, if you take some of the water out of the juice. It's true that it really isn't orange juice anymore, but that may not be as much of an issue if you are trying to ship it across the country.

- **Business rules** can be legal rules that must be complied with. Health Insurance Portability and Accountability Act (HIPAA) is an example of a set of business rules that any organization in the U.S. working with healthcare information must comply with. Process rules fit into this category, although some flexibility may be needed. For example, does step 2 really need to take place after step 1 or is it just that we have always done it that way?

- **Social rules** define what is acceptable within a cultural setting. These are affected by corporate values and principles. Global organizations need to be aware of any regional nuances that may come into play.

Rules function to minimize or prevent gaming the system, so care must be taken to understand what is going on during the game's creation and when the gamification effort is operating. Much like the real world, we have lawmakers and police for a reason. The metrics should provide enough information to prevent bad behavior from ruining the effort for everyone.

Use the feedback

In Michael Hugos' book *Enterprise Games,* he stated that "Feedback systems are the new highest calling of information technology."[8] Timely feedback can be used to change shopping behavior, process conformance, and decision-making by organization leadership.

Figure 4. Gamification feedback

Audience

Timeliness

Private/ individual

Leadership

Public

Batch

Real time
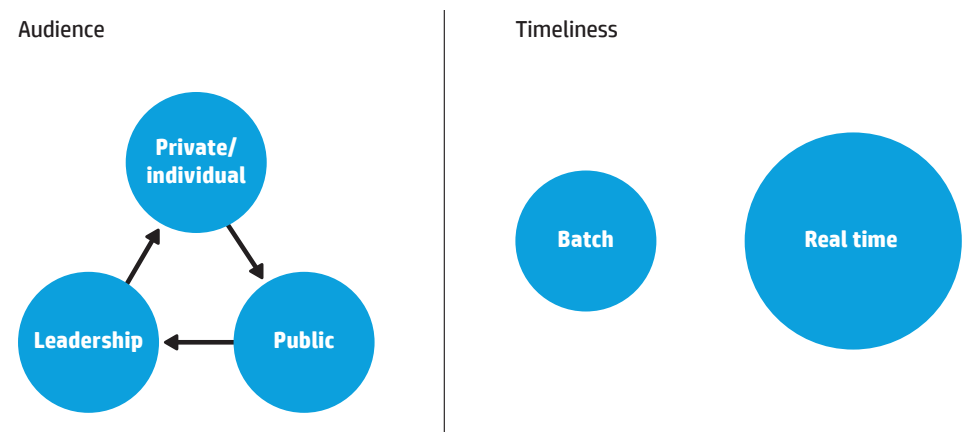
[8] Hugos, Michael. *Enterprise Games,* O'Reilly Media, 2012

The feedback framework defined in this model has two major components. The first is the audience, which is divided into players, leadership, and the public.

The wrong feedback can cause a player to feel manipulated rather than encouraged, so it's essential to provide clear feedback measures that players can control and use to change their actions, improve scores, and help achieve goals. The feeling of control is critical to a successful implementation.

Leadership needs performance feedback, too, since their continued support is important to the business effort. During the goal definition stage, the metrics and their expected change should have been defined and show meaningful progress toward goals. The timely delivery of updated performance information to leadership will greatly increase confidence in the initiative.

Many gamification efforts also have a social element. Publicly shared information on performance, progress, issues encountered, and lessons learned can be used to develop a feeling of community. The camaraderie of people working together can be a powerful tool in reaching common goals.

Timeliness is the second major component and an important characteristic of feedback. The majority of feedback should be as real time as possible, giving players information they need to understand and adjust their behavior while performing the action. Many times dashboards that gather information from multiple systems will require a batch component to be updated. Even these should be as near real time as the environment can support.

Engage in gamification

Using metrics and rewards to focus attention on specific behavioral changes can be powerful. Organizations should start small, but address meaningful goals—as others will not care about the gamification effort if the results are trivial. It should also build skills—since gamification is a long lever that can move things around and cause change in unexpected ways when not understood.

Gamification is not about squeezing more out employees, rather producing authentic happiness and helping players flourish while achieving your goals.

Gamification can be applied to almost every element of services today, so leaders need to become familiar with its elements and applications. Applications modernization efforts and business process reengineering should now evaluate the inclusion of gamification elements.

Sam Walton once said, "Celebrate your success and find humor in your failures. Don't take yourself too seriously. Loosen up and everyone around you will loosen up. Have fun and always show enthusiasm." These are the same principles that are at the heart of gamification. It is not about trying to squeeze more out of players, but to produce authentic happiness and help players flourish while achieving your goals. You can start it today.

Part 2: Review a real-world example

Even a modest application gamification can have a measureable effect.

Each year, HP has a global technical conference for its leading technologists. The only way to attend the conference is to submit a paper and have it reviewed and accepted into the conference by a committee of peers. About 1,900 papers were submitted to the 2013 conference.

In recent years, there were negative trends in reviewer behavior impacting review quality. Since the only feedback provided to the authors about their paper (and how to make it better in the future) came from the reviewers, addressing these trends was important to the value of the process. To improve the process, a gamification effort was put into place:

Understand the goals
Two goals were defined:

1. Increase the average feedback per paper

2. Increase the percentage of reviews that took place, as assigned, in the time available

The players in this implementation were the reviewers. The leadership was the program committee of the conference.

Player feedback
Three techniques were identified to provide feedback:

1. A reward structure of points and badges was defined to recognize reviewers and specific reviewer behavior. Some badges were comically named to add a bit of fun to the exercise, for example, the motor mouth badge was for the individual who provided the most quantity of feedback to authors. Other badges were more performance-oriented, focusing on task performance within a specific timeframe—most feedback or reviews in a week. There were also team-oriented badges, like one to recognize the first team to complete all their reviews. Performing reviews and completing badges all added points to a reviewer's performance and were shown on the performance dashboard.

2. A leader board showed the top reviewers and review teams. This was updated several times a week.

3. An automated email was sent before and after the weekend, during the five-week review period, since most of the review work takes place during the weekend. It was tailored to individual reviewer's efforts, providing relative performance information, badges reviewers may have received, and the performance dashboard's location. All information was analyzed and presented using the same review tools as the previous conference. The only real change in interaction with the reviewers was the inclusion of a personalized analysis of performance and a leaderboard.

Review the results
Points were awarded when the review was entered into the review tracking system. All public feedback was focused on the positive performance of top performers. Any feedback that could be construed as negative was included in the personalized feedback.

A simple definition of review feedback quality was identified as word count. Obviously, this is not ideal and could be easily gamed, but it was quantitative and easily compared to the previous year.

Table 1. Results demonstrate significant positive performance shift

Tech Con metrics	2010	2011	2012	2013
Number of abstracts to review	1308	1592	1763	1880
Number of reviewers	264	277	286	332
Percentage of reviews completed as assigned	98.69%	98.73%	95.99%	99.12%
Reviews per reviewer	24.78	28.74	30.50	28.31
Feedback word count to authors				
• Average	89.71	104.37	106.9	127.45
• Standard deviation	94.86	85.85	84.37	82.33
• Median	74	94	91	110
Feedback word count to authors				
• Average	4.64	4.39	4.73	5.76
• Standard deviation	16.07	15.49	16.97	17.18

Figure 1. Review completion comparison
Percent of time through the process (X axis) vs. percent of reviews complete (Y axis)
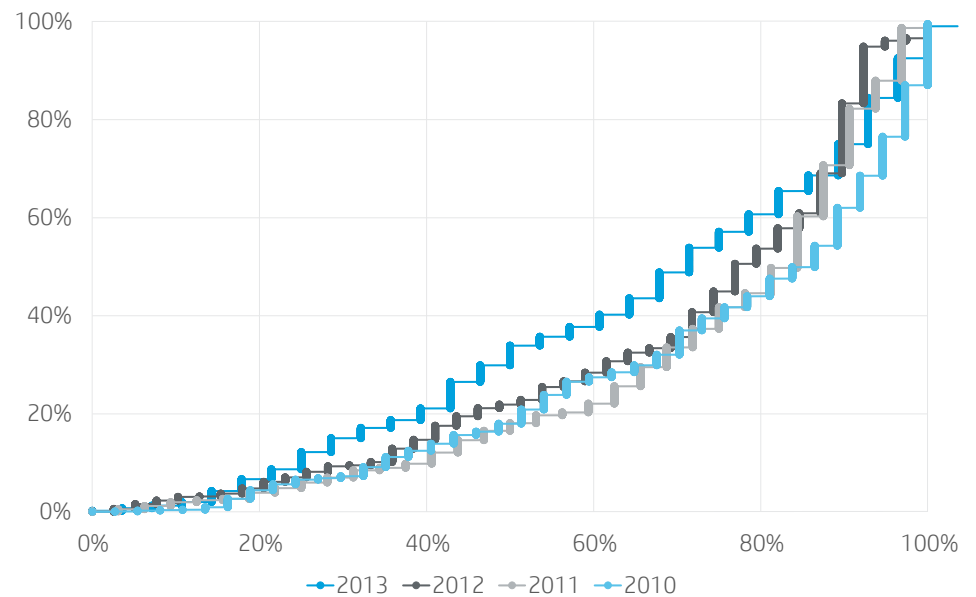
The reviewers' timeliness also shifted. This enabled review coordinators to focus their attention on specific reviewers and situations earlier in the process, rather than waiting until the end where the majority of reviews traditionally took place, and there was no time left to respond in a controlled fashion.

The two goals of providing more feedback and improving the number of reviews completed as assigned were met, reaching the highest levels recorded in recent history, even though only relatively simple techniques were used.

Review lessons learned

The most important lesson learned during the effort was making the rules more public and well defined, ideally including examples early in the process. At the end, when some of the final performance badges were awarded, reviewers were upset their standing continued to shift, long after they had completed their reviews. Although it was clear there were points for team performance and other badges that couldn't be awarded until the end of the review period, there were numerous questions about the shifts in point totals at the close of reviews. Having a well-thought-out communications plan, reviewed by multiple parties, helps ensure things are explained sufficiently for all players, making communications more effective.

Another lesson came from a survey sent to all the reviewers to gather their perspective on the effort. Almost 50% of those involved thought the effort had no impact on the quality of the reviews provided, and 27% thought it had no impact on the timeliness of the review process. Only 45% thought the gamification process should be done again in the future. These results show a gamification effort may be effective and still not be viewed has having much impact by those involved. During the entire process, no additional effort was required from the reviewers other than to read and delete the email status messages tailored to their performance. Once the reviewers saw the actual impact on their behavior as a group, many changed their perspective on the effect of the effort, but not all.

Game elements like badges and leaderboards are an important aspect of the effort, but should not be the only component to create a game experience. The game designer should build a gamification experience where fun interaction and collaboration take place—where those involved are actually interested in greater interaction and understanding of what is happening.

When performing initial work on an effort like this, things will go wrong. Be sure to understand what happened and survey those involved so improvements can be made.

Check out other resources

• GamificationU: gamificationu.com

• Gamification 101: An Introduction to the Use of Game Dynamics to Influence Behavior: bunchball.com/sites/default/files/downloads/gamification101.pdf

• Gamification course on Coursera by Kevin Werbach (University of Pennsylvania Wharton business school): class.coursera.org/gamification-2012-001

• Game Mechanics resources:

  – BigDoor: bigdoor.com

  – PunchTab: punchtab.com

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