Robin Robinson

Gamification *is* Serious BUSINESS

Don't be fooled; game mechanics are valuable tools for all aspects of business.

Research and case studies from both the academic and healthcare space bring forth ample evidence that games can improve patient compliance and healthcare outcomes. But can they effectively be used for physician education, sales training, and brand marketing?

Forward-thinking gamification experts believe they can. According to our experts, gamification has implications across the all industry verticals — from discovery to clinical development to physicians to patients.

"Evidence shows that gamification can significantly increase engagement and message recall," says Buddy Scalera, senior VP, interactive content and market research, Ogilvy CommonHealth. "For brands trying to communicate complex messages about science and data, gamified marketing can be part of an effective, measurable campaign."

According to Sarah Ray, research analyst at Cutting Edge Information, most gamification strategies use the same mechanisms that make games themselves so popular.

"Pharmaceutical companies benefit by reinforcing the desired behavior through rewards, ensuring that patients do what is best for both them and the company," she says. "Recent studies on lottery and other reward systems that drug companies have implemented have started to show positive results for patient adherence."

Gamification

Defining Gamification

Gamification is the use of game-thinking and game mechanics in non-game contexts to engage users and solve problems.

Source: Wikipedia

makes it easier for users to digest new information in an interactive way, and it is especially useful in the medical industry, says John Wes Green, integrated marketing innovation practice lead, advisory services, Paragon Solutions.

"Leveraging game-oriented mechanics, thinking, and dynamics into non-game applications facilitates learning and engagement in a more user-friendly, interactive way," he says.

The principles of gamification are parallel to the fundamental principles at the heart of human motivation and behavior, says Alex Butler, former pharmaceutical marketer turned digital healthcare marketing consultant.

"The real benefit of gaming principles to all aspects of business is, as with all technology, the understanding of people and how they behave," he says.

According to a blog post by game designer and guru Jane McGonigal, people around the planet play 3 billion hours of video games every week. Currently, more than half a billion people worldwide play computer and videogames at least an hour a day, and 183 million of those players are in the United States.

Ms. McGonigal designs games for all purposes, and after an injury affected her life, she developed SuperBetter, a game that has helped more than 150,000 players tackle real-life health challenges such as depression, anxiety, chronic pain, and traumatic brain injury.

On the pharma industry side, there are several companies that are using gaming for a variety of purposes. For example, Abbott Nutrition, the company behind Similac, PediaSure, and Ensure, has used gamification in its online training program for residents and program faculty members. The company drives engagement by rewarding residents who complete ongoing educational modules.

For European patients, Pfizer created a Back in Play game to boost knowledge of ankylosing spondylitis, a disease that causes inflammation in the spine and pelvis joints.

Over the past two years, Boehringer Ingelheim has been developing Syrum, a game that aims to expand drug industry knowledge, improve disease awareness, and allow the company to conduct market research.

Several years ago, Bayer created the diabetes Didget blood glucose meter for children to use with their Nintendo DS handheld game system, which rewards them for testing consistently.

According to Brendan Gallagher, senior VP, emerging technology and channels, Digitas Health, devising a successful game for a life-sciences company can be almost as difficult as bringing a new molecule to market.

"However, we are beginning to see some companies using gaming principles and crowd sourcing to solve big problems," he says

Mr. Gallagher cites Boehringer Ingelheim's

> **"Physician education is one place that can benefit from gamification."**
>
> **MICHAEL MARETT** / WorldOne Interactive

use of Kaggle, a platform for data prediction competitions, as a good example. BI engaged Kaggle to help improve the drug discovery process with the "Predicting a Biological Response" competition.

"The goal of the competition was to predict the likelihood of mutagenicity, which causes damage to DNA as a key side effect that new drugs should avoid," he explains. "BI's Facebook game, Syrum, helps to promote awareness of the drug-discovery process."

Successful examples of mobile gaming applications are also starting to emerge, including HealthPrize and Mango Health, both of

> **Games are a true area of innovation in digital health that can have a massive impact on health outcomes.**
>
> **ALEX BUTLER**
> Digital Healthcare
> Marketing Consultant
> @Alex__Butler

"Games are also being used on the clinical side," Mr. Butler says. "We have witnessed significant use of games in the rehabilitation of stroke victims, in the treatment of depression in young people and in the elderly, in support in CBT, and in treating anger issues in young vulnerable children to name a few. Games are a true area of innovation in digital health that can have a massive impact on health outcomes."

Another example of gaming and healthcare at work in the name of science is the online game Foldit. The game turns protein folding into a competitive sport. According to Foldit, after about 20 minutes of training, people feel like they're playing a video game but they are actually mouse-clicking in the name of medical science. The game is simple: researchers send a series of puzzles to Foldit's almost half a million registered users, and the scientists then filter the results, searching for the best designs and taking those into the lab for real-life testing.

Mr. Butler cites a 2012 success story from

the initiative. Players redesigned a protein in just three weeks, which had stumped scientists for 15 years. Foldit attracts a unique type of gamer, one who enjoys obsessing over biological protein folding patterns. Mr. Butler says the game was developed by University of Washington scientists Zoran Popovic, director of the Center for Game Science, and biochemist David Baker.

Another example of collaborative online gaming is a program designed to help people diagnose malaria. Mr. Butler says the game helps players distinguish malaria-infected red blood cells from healthy ones. The application of game principles allow participants to be accurate to within 1.25% of trained pathologists. This was put into clinical practice supporting diagnosis of malaria in resource-poor settings.

Despite all of these examples of successful innovations from these pioneering companies, the validity of gamification remains in question for many industry leaders.

which are motivationally designed medicine adherence applications that reward patients for taking their prescription drugs. Another good example is Hubbub Health, which is a social health network that combines gaming, daily challenges, and a community to promote physical and mental wellness.

TRENDING NOW ✔ THE CHALLENGES OF GAMIFICATION

Experts share best practices for achieving goals and fostering collaboration

JOHN WES GREEN
INTEGRATED MARKETING
INNOVATION PRACTICE LEAD,
ADVISORY SERVICES
Paragon Solutions

While leveraging gaming dynamics and mechanics has proven to facilitate deeper engagement and enhanced levels of learning, many organizations are still struggling with effectively incorporating emerging technologies into their overall capabilities. Many organizations have dedicated innovation or digital CoEs that have proven governance, change management, methodologies, and artifacts that help their internal stakeholders understand how to best leverage and adopt emerging technologies into their marketing mix.

For those organizations that do not have dedicated resources in place, beginning with the end customer in mind and having clear business objectives helps level set the excitement a new technology creates in the minds of business leaders. Organizations must rationalize how gamification can deliver on an audience's wants, needs, desires, or value through an iron-clad business case. Creating a gamification solution because it's sexy is synonymous with the thought process of the early 1990s in which 'build it and they will come' was a prevalent business approach. As such, being methodical and disciplined regarding the business

objectives, end customers priorities, and impact will guide organizations on how to best leverage gamification to achieve corporate objectives.

MICHAEL MARETT
SENIOR VP, HEAD OF GLOBAL
BUSINESS DEVELOPMENT
WorldOne Interactive

Principles of gamification are being used at varying levels across industries and organizations to hit corporate goals. The practice has proven to effectively engage target audiences in desirable iterative behavior and create loyalty around core content, qualifying an obvious opportunity for the life-sciences industry.

Gamification should be applied when creating alternative educational experiences for healthcare professionals. HCPs are competitive by nature, already have a large appetite for digital, and a strong desire to learn and amplify their expertise. Leveraging their pedigree in combination with gamification to create competitive educational environments creates powerful opportunities to dynamically inform and promote brands/therapeutic areas.

Similarly patients are likely to better adhere to prescribed treatments if their CRM/loyalty programs include visual badges, points, and/or status to help them monitor their progress.

It can't be denied that the prevalence of gaming has already reached healthcare professionals, who are very difficult to connect with. Combining competitive education platforms with social media will help amplify key messages and important therapeutic content. Collaborative gaming environments foster long-term repeat interaction with core content, facilitate learning, and promote competition amongst local or global peers. These platforms can harness the wisdom of the crowds to derive collective intelligence from categorical experts.

TRAPPER MARKELZ
HEAD OF PRODUCT
MeYou Health

I continue to see gamification as a strong set of patterns for encouraging social experiences. Gaming experiences are fulfilling experiences because they provide clear prompts, feedback, and incentives for mass participation. If you want to get a group of strangers to know each other, you make a game out of it. Social product designers are realizing that just because a product can be social doesn't mean it will become so. Break out the games and you can bring people together, find common ground, and rally people through forms of exploration, achievement, storytelling, cooperation, and competition.
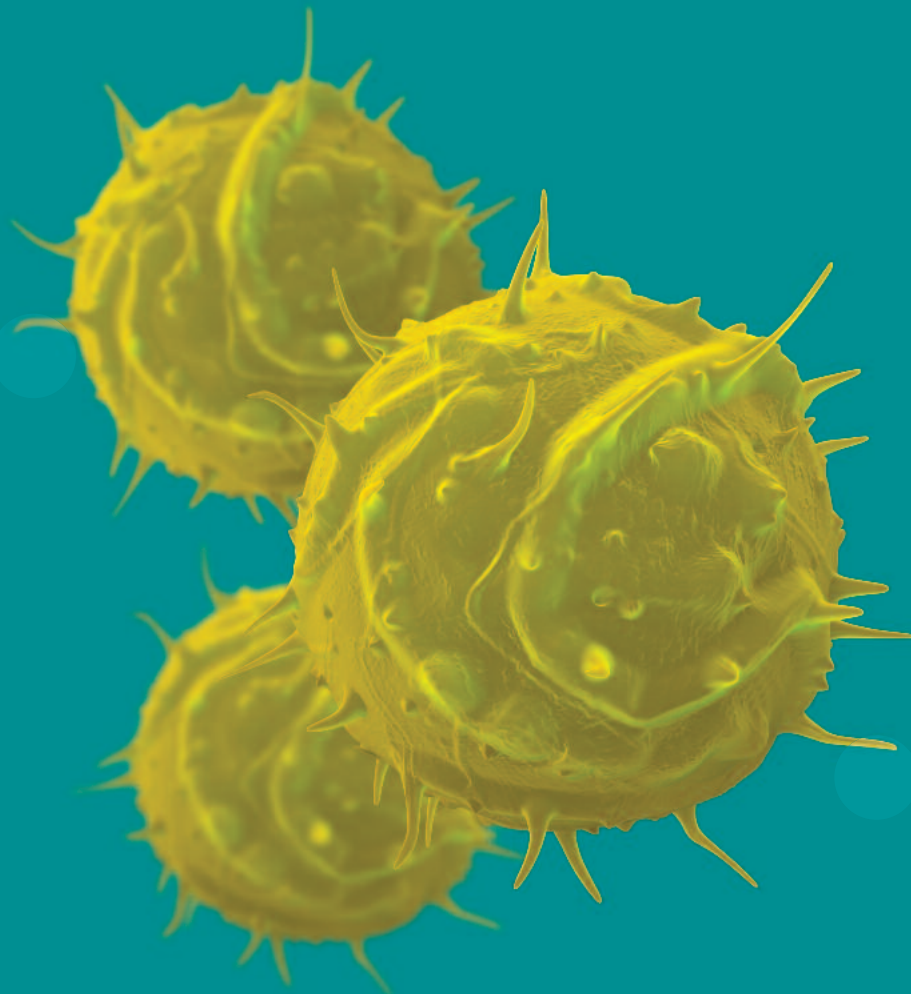
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> Ogilvy CommonHealth

> **Leveraging game-oriented mechanics into non-game applications facilitates learning and engagement in a more user-friendly, interactive way.**
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> **JOHN WES GREEN** / Paragon Solutions

> **Any problem that can be solved by long-term engagement can be solved through gamification.**
>
> **TRAPPER MARKELZ** / MeYou Health

What Makes a Game a Game?

The name gamification may be its own worst enemy. The word "game" can mean many different things to people, and most usually, the word is equated with fun and entertainment that results in little or no constructive end. But that is not what the gamification process is at all, our experts say.

Gamification refers to using the mechanics of gaming in a non-game context to engage users and solve problems, our experts — and Wikipedia — say. One important element that must be present is reward and recognition for the player's actions, for example badges, leader boards, scores, or prizes.

There are other key principles that must be involved for a game to achieve its goal — whether it be patient adherence, physician education, or brand awareness, or solving complex science. There needs to be a goal or goals and a sense of purpose. There needs to be rules and restrictions, and working within these limitations must motivate players to meet challenges by thinking creatively and strategically. And most importantly, there must be feedback, Mr. Butler says.

"We all need feedback systems that inform us on how close we are to achieving our goals and these are effective only when people voluntarily agree to take part," he says. "Using these four key principles and incorporating a motivational design into all aspects of corporate culture, companies can achieve amazing results."

Often poorly executed gamification is a result of misunderstood, nuanced psychological interactions that players have with games, he adds. The game mechanics must create a feedback system that aligns with players' goals and doesn't confuse incidental properties of points and tables with primary features, such as interactions with behavioral complexity. In other words, the feedback must be real and have true psychological resonance for those taking part, Mr. Butler says.

Trapper Markelz, head of product at MeYou Health, a social well-being company, agrees that feedback is tremendously important in gaming and he has observed many gamified programs miss the mark. As designers get comfortable with how to use gamification, hopefully they will learn to use it in more effective ways, he says.

"One of the most simple ideas in gaming is feedback," he says. "It is amazing to me how many products are created that simply aren't clear about when and how to use them. Or how many products make no attempt to introduce features and capabilities over time and rely on explaining everything with a manual or through intensive training."

Selling Games to the C-Suite

Gamification is not an easy sell to the C-suite, Mr. Scalera says. The biggest challenge the life-sciences industry faces is the perception that games have no place in a serious conversation about health, science, and data.

"Bring up games and team leaders start to think of everything from the Xbox to Monopoly to slot machines," Mr. Scalera says. "But this isn't what is meant by gamified messaging."

Gamification: And the Survey Says...

» More than half a billion people worldwide play computer and videogames at least an hour a day —183 million of them are in the U.S. — Jane McGonigal, American game designer

» 47% of gamers are women. — Entertainment Software Association

» By 2015, 40% of global organizations will use gamification as the primary mechanism to transform business operations — Gartner

» By 2015, gamification's project value is expected to be $2.5 billion. — Forrester

» The global gamification market is projected to grow at a CAGR of more than 99% between 2012 and 2016. — Infiniti Research

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> **"Pharmaceutical companies benefit by reinforcing the desired behavior through rewards."**
>
> **SARAH RAY** / Cutting Edge Information

> **"Some pharmaceutical companies are using gaming principles and crowd sourcing to solve big problems."**
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> **BRENDAN GALLAGHER**
> Digitas Health

According to a Cutting Edge Information report, many leaders view gamification as incompatible with company objectives and internal stakeholders are reluctant to develop gamification platforms.

"They remain unconvinced of gamification's potential beyond entertainment value, especially when targeting patient education and patient adherence," Ms. Ray from Cutting Edge says.

Mr. Scalera suggests steering discussions away from the word game and using words such as engagement and message recall.

"After all, gamified marketing isn't really about the game," he says. "It's about engaging the user to think about the brand challenge so he or she can win the game."

Mr. Scalera says there is a linguistic challenge that requires careful word selection when describing the approach to leadership, because the wrong word could trivialize the overall tactical approach.

"When pitching the idea, it's important to share data about engagement, retention, and recall, since that's what will frame and elevate a serious conversation," he adds.

According to Mr. Markelz, it is extremely common for those unfamiliar with how gaming works to assume that by adding game dynamics, mechanics, and aesthetics to a product experience, the overall experience will be trivialized.

"Gamification is just another tool in the toolbox to foster engagement," he says. "We need to keep stakeholders focused on the strategic goals of the product, like how it will drive outcomes, or how it will boost revenue, and let the product teams at a tactical level decide when and how to use gamification."

"It's important that senior management understands that when we gamify a message, we're not necessarily looking to entertain the users, we're trying to get them to think, and that makes a lot of sense in the life-sciences industry," Mr. Scalera says.

When pitching gamification ideas to top-level executives, teams should adopt a realistic approach: understand that not all internal and external stakeholders will be equally receptive to gamification, Ms. Ray suggests.

"Alleviating internal stakeholders' concerns requires digital teams to focus on the driving strategy behind any proposed use of gamification," she says. "Pharmaceutical companies' gamification strategies should reflect small, concentrated efforts toward a central goal, instead of more generalized game-based efforts that lose sight of the guiding objective."

To effectively argue the need for a gamification solution, marketers should not only predict direct return on investment, but also the return on resources compared with other initiatives. Mr. Green cautions marketers to not overlook the impact on internal resources that a gaming program may have.

"A great example of this paradigm is the operational needs and resource consumption of patient relationship marketing programs," he says. "Most ROI models are designed to illustrate the direct impact on the adherence curve, without taking into consideration extraneous resource consumption, such as people, time, and infrastructure."

According to Cutting Edge, case studies, like those developed by Carnegie Mellon and the University of Pennsylvania, demonstrate the value of gamification. These studies show that, if developed with a specific purpose in mind and implemented on a small scale, gamification enhances companies' strategies by promoting objectives, often without the literal game.

Games Solve Problems

Games can be used for more than patient education or motivation. Physicians respond well to gamifying education. Customer service can be gamified as can sales training. Wherever that long-term engagement can help solve a problem is a good place to gamify.

"At its core, gamification is about leveraging the dynamics, mechanics, and aesthetics of game design to create fulfilling experiences and extend engagement," Mr. Green says. "If there is a business need that can derive value from engagement, this is where gamification can best be applied."

Physician education is one place that can benefit from gamification, and the industry and physicians are becoming more open to this type of training, which is being defined as competitive education, says Mike Marett, senior VP, head of global business development, WorldOne Interactive.

The industry should view using game mechanisms to educate healthcare professionals as an emerging marketing channel.

According to Mr. Marett, physicians are seeking new approaches to learn and there is adequate data and precedence that support this specific opportunity. It is important, however, to ensure that the content is relevant and that the activities are rooted in science, he says.

"Platforms and technologies that gamify education and awareness have the power to improve collaboration, change behavior, and drive measurable results for healthcare marketers," Mr. Marett says. "Technology and trends will only continue to evolve so pharma should always be keen to consider new ways to unlock differentiated channels and platforms to disseminate their targeted messages."

According to a WorldOne poll of 500 global doctors, administered via MedLIVE.com, 82% of physicians are interested in competing against global peers in an online health game that tests their knowledge, and 84% are interested in forecasting future healthcare events in competitive online environments as a way of learning about healthcare trends.

"Competitive education is an emerging healthcare professional marketing category proving that when marketers convert their brand science into sport, they benefit greatly from driving targeted promotional engagement, deepening education, deriving data, and supporting forecasting initiatives," Mr. Marett says.

Mr. Green agrees that there are many applications for gamification within the life-sciences industry, but his view is that the primary opportunity lies within patient customer service to help overcome one of the biggest problems patients experience, which is buyer's remorse.

"Prospective patients and those on treatment experience significant levels of emotional and psychological discourse when starting or continuing a treatment," he says. "Gamification could be leveraged in a novel way to address concerns in a private — as opposed to public — setting to educate, challenge, and advance the patient's understanding and comfort level with the prescribed treatment."

Gamifying will be more successful when the goal is sustained, long-term engagement. A training exercise or single-use interaction can feel contrived and forced if game dynamics and mechanics are applied.

"If the goal is to have someone engage in a journey of exploration, achievement, and social interaction, the use of gamification will be much more successful," Mr. Markelz says. "Not every healthcare problem can be solved by more engagement, so not every problem should be tackled with games."

Gamification Slated for Growth

Many research companies are predicting tremendous growth in the use of gamification. Forrester has forecast that the gamification market will be valued at $2.5 billion by 2015. According to Gartner, 40% of global organizations will use gamification as the primary mechanism to transform business operations.

Mr. Green predicts that many organizations will experience growing pains as they mature their capabilities to embrace this new approach.

"The underlying principles of interactivity, instant performance gratification and, in some situations, a publicly oriented competitive environment will continue to fuel the insatiable appetite of health audiences to engage and participate in initiatives that leverage gaming dynamics and mechanics," he says. "This interest and engagement will accelerate as other industries begin applying this methodology to their business approaches."

The quirk about gamification in the digital healthcare sector is that there are numerous examples of success, and there are still many non-believers.
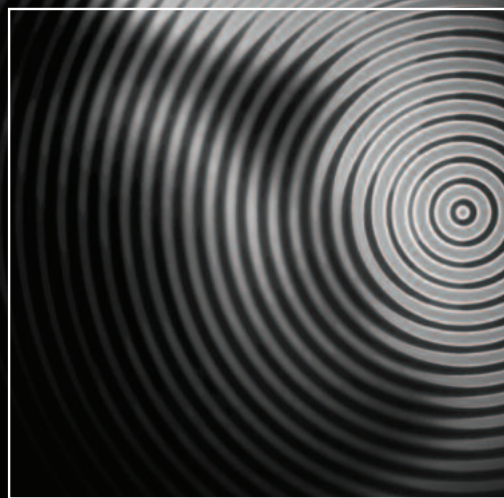
"Games are still often characterized as a fringe concern, only interesting to a small number of believers and enthusiasts," Mr. Butler says. "Within the gaming industry the two most powerful drivers of change are the socialization of gaming with online gaming and the proliferation of mobile devices, making games an any time-any place activity that can even be integrated into people's real lives. These trends have also been a driver of innovation in gaming for healthcare."

As communication technology continues to evolve, new platforms, channels, and devices will redefine how companies engage with media and content, Mr. Marett says.

"Our communal aim as pharma marketers is to leverage best-in-class technology and apply principles from emerging trends for the purpose of increasing awareness, encouraging collaboration, supporting the physician decision journey, and improving patient outcomes," he says.

Some of the games that people regularly interact with are more complex than some of the most complex clinical software, yet no one needed to be trained on those games. They learned how to play them over an extended period of progressive learning.

"I am excited to see how these concepts of feedback and information cascades will start to make their way into non-game products," Mr. Markelz says. (PV)