



# Technology Trends

Gamification

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Shared Services  
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Services partagés  
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Canada

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## Business Brief

Gamification is the process of integrating game design principles and mechanics in non-game environments by exploiting people's innate enjoyment of play<sup>1</sup>. It utilizes game design principles to improve customer engagement in non-game businesses by employing reward schedules, creating achievement streaks with status' and badges. This increases the relationship, engagement, and interest a customer has with the product or brand.<sup>2</sup>

The goal of this methodology is for people to perform better on work-related tasks that involves concrete goals which will eventually lead to achievements and perks.<sup>3</sup> An example of gamification would be Deloitte's leadership training program for its senior executives. Furthermore, there was an issue with the training program being uninteresting and boring to complete. So, Deloitte used goal-based achievements such as leaderboards, badges, and status symbols. As a result, the gamified training program was efficient by cutting the average training time in half and increased the number of returning users by 47%.<sup>4</sup>

In 2002, Nick Pelling first coined the term "Gamification" while he was designing a user interface with game design features.<sup>5</sup> It wasn't until 2010 that the term gained recognition.<sup>6</sup> This innovative trend emerged out of the changing nature of the workforce where the new generation has grown up playing video games and from the wide adoption of social media and mobile technology.

The global gamification market was valued at 5.5 billion USD in 2018 and it is estimated that it will continue to grow by 30.31% over the next 5 years. This growth supports the fact that industry recognizes gamification as a method to architecture human behavior, in order to induce innovation, productivity, or engagement. In addition, the adoption of mobile device creates a foundation that has increased the gamification usage.<sup>7</sup>

Initially, gamification was used to generate brand loyalty and awareness, motivate and engage, and train employees on certain tasks. In recent years, it has evolved to include sales acceleration, event and goal tracking, and knowledge training that is cross-functional. Here are some of the main benefits of gamification: <sup>8</sup>

- **Improving team coordination:** A 2015 Harvard Business Review study found that 75% of cross-functional teams are dysfunctional largely due to organizations lacking a systematic approach to reach desired goals such as adhering to specifications, budgeting problems, and meeting customer expectations. The vision of many gamified organizations is to train multi-faceted employees and create a process where the entire workforce shares a core set of knowledge with broad applications.
- **Bridging the generational gap and improving communication:** The challenges of the modern workplace is to create an environment that rewards and encourages productivity for employees of all ages and background, despite differences in

communications and preferences. Millennials prefer to communicate through technology while older employees prefer face-to-face communication. Additionally, they stated that they would work harder if their efforts were better recognized.

Early gamification strategy motivated their players using rewards such as points, achievement badges, levels or virtual currency. These strategies increase the visibility of accomplishing tasks in order to encourage their players to compete with one another via the use of leader boards. The concepts has enormous potential for business to engage their customers and to motivate their employees, but most gamified applications fail to incorporate business objectives with game design elements. As Brian Burke, the research vice president at Gartner, mentioned: "Most attempts at gamification currently miss the mark due to poor design, but successful and sustainable gamification can convert customers into fans, turn work into fun, or make learning a joy. The potential is enormous."<sup>9</sup>

## Technical Brief

There are a variety of Gamification Software vendors that offer different types of services from enterprises, small businesses, retail, sales, and learning management systems.<sup>10</sup>

### Enterprise

Enterprise gamification applications have the capability of handling thousands of client and employee input. It is best used for big, multinational, and multi-location companies looking for higher user engagement.

- **Bunchball Nitro**
  - o Nitro is Bunchball's cloud based enterprise gamification platform. Nitro has been used for companies such as: Toyota, T-Mobile, Wendy's, T.RowePrice, and Urban Outfitters. It's key features are: easy and flexible UI (user interface) integration, leaderboards, challenges, rewards, badges, data insights, security, scalability, user segmentation, and efficient administration.<sup>11</sup>
- **Gameffective**
  - o Gameffective specializes in sales, services, eLearning, onboarding, and collaboration. It is mainly used in call centers, contact centres, help desks and operations needing assistance. It provides easy integration with user desktops where admin can send change and update goals, track progress, give rewards, and create badges.<sup>12</sup> It offers quizzes, simulations, learning paths, and reference material storage. It has the ability to turn work to a gaming environment like fantasy sports, TV game shows, competitions, raffles, and urban themes to encourage teams to cooperate and work. It uses the principles of behavioral psychology, motivation, and gamification.<sup>13</sup>

### Learning Management Systems

These systems are utilized to combine learning with gaming elements to improve training efficiency.<sup>14</sup>

- **LearnUpon**

- o It is a cloud based learning system and is used by training companies, software companies, associations, nonprofits, and enterprises. It is device agnostic, meaning the web interface will look uniform to other devices. Additionally, starting to big companies are able to adopt this technology. It is best used for: employee training, customer training, and social learning.

- **Axonify**

- o It is a microlearning platform that adapts to the organization's needs. They continually test employee's knowledge on a certain job task, uses AI to fill in information they need for them to perform well, fosters a fun learning experience, contains a library of content, and analytics.<sup>15</sup>

There isn't a single roadmap every business must follow in order to gamify their business model. However, just adding gamification elements to an ill-conceived business concept will not make it viable. Several experts believe it is important to use a process based on the popular User Centered Design before attempting to add game mechanics to their software. The sequential design process starts with finding the types of players, the mission statements, the motivational drivers in order to identify the game mechanics. Here is a detailed explanation of these elements: <sup>16</sup>

#### **Players:**

The first element to consider are the users, also known as the player in the scenario. The main goal of gamification is to serve as motivation for the players to accomplish a task. Therefore, understanding the player's motivation is paramount to the successfulness of gamification strategy. There are four main underlying reasons why people play games: for mastery, to relieve stress, to have fun or to socialize. Many factors related to a player's personality and professional information will give insight into how to leverage the work accomplished. Richard Bartle, a game researcher, identified four categories of players based on their gaming preference. An important note is that they are not mutually exclusive, but most people have a dominant characteristic.

- **Socializers:** These types of players enjoy games for the benefit of a social interaction rather than the game itself. To them, the game is a backdrop for meaningful long-term social interactions, it offers a context and a catalyst rather than an end in itself. 80% of players identifies as socializers.
- **Explorers:** These players love to discover new aspects of the game. They don't mind spending time doing repetitive tasks if it means discovering hidden elements. Sharing that knowledge back to their peers brings the satisfaction explorers need. 50% of players are explorers.

- **Achievers:** These players like the competitiveness of games in order to gain points or status. In the workplace, these types of people drive a great deal of projects, services, and brands. Designing a gamified application exclusively for them is difficult because if they lose, they might lose interest. 40% of people are achievers.
- **Killers:** This type of player enjoys winning just as much as achievers, but they go one-step further as they also desire others to lose. Only 20% of people identify as killers.

### **Mission:**

The second part is the mission. It refers to the goal of the gamification strategy. The mission determines the parameters of success or failure. In order to create an effective mission, there are three steps to consider:

- **Analyzing the current scenario:** The steps involve studying the work practices currently done by employees, customers, or partners. This information is usually obtained by observation, site-visits and interviews. For example, it has been observed that the majority of people prefer using the escalator instead of the stairs.
- **Establishing the target business outcome:** On a high level, this step establishes the desired outcome management wants out of their employees, customer or partners. This information can be gathered from stakeholders about the behavior change they wish to see in their organization. For example, they wish people would take the stairs more often.
- **Identifying a S.M.A.R.T. mission:** Once the analysis of the current and the target scenario have been completed, a mission can be determined for the gamification strategy. The mission statement should follow the S.M.A.R.T. approach, which stands for specific, measurable, actionable, realistic and time-bound. For example, for the next 3 months, increase the use of stairs by 50% by engaging subway passengers in a fun way. This led to the Volkswagen project Piano staircase in 2009.

### **Motivation:**

The third part is the key aspect of Gamification: motivation. In psychology, there are two types of motivation: intrinsic and extrinsic. Intrinsic motivation is derived from our core self such as autonomy, curiosity, learning, etc. Extrinsic refers to external desire such as money, trophies, etc. Motivational drivers are based on what motivates people and can be used to design engaging experiences. Here is a short list of motivational drivers:

- **Collecting:** Motivation that comes from the joy of collecting have people own a collection of items with monetary, symbolic, social value. People are urged to complete a set.
- **Connecting:** Motivation that comes from connecting with other people or to be part of a community encourages us to join clubs and share meaningful experience.
- **Achievement:** Motivation from the satisfaction of achieving an objective encourages people to try hard and succeed. Challenges that are too difficult or too easy may not be as encouraging as if it was the right level of difficulty.

- **Self-Expression:** This era of hyper-personalization offers the ability to customize your virtual representation. Many players spend countless hours customizing their avatar that are viewed by others.
- **Feedback:** Providing feedback to a player gives some insight into their performance or progress. Positive and negative feedback offers information about a person's accomplishment of a task as a basis for improvement. Not receiving any feedback can be demotivating because the player doesn't know if their actions has any impact and their experience becomes less enjoyable.

### **Mechanics:**

Finally, there's the game mechanics. It is the most visible part and tends to be the focus of gamified projects. Successful applications of gamification depends on a well-designed strategy based on a good understanding of the player, the mission, and the human motivation. Game mechanics are the building blocks that can be applied and combined to gamify any application whose goal is to produce enjoyable gameplay. The following game mechanics can leverage a natural motivation drive in the player when used appropriately.

- **Points:** A typical gamified environment includes a point system to reward the player for their successful accomplishments of specified activities. The point system is designed to drive a desired player behavior or to assign a value to the tasks. For example, a player will receive a higher reward when completing a task deemed more valuable or requiring more effort. Various types of points exist, such as experience points, redeemable points, reputation points and karma points each serving a different purpose. Points address the motivational driver of *collection* as players want to increase their total points and *feedback* as their behavior can be measured.
- **Badges:** Once a player has accumulated a certain number of points, they may be awarded badges. Badges are a symbolic representation of achievements that can be earned within the gamified environment. They serve as positive reinforcements and have many motivational drivers: they indicated the player's performance by providing *feedback*, they incentivize players to add them to their collection and they exert *social influence* on other players.
- **Leaderboards:** Leaderboards rank players according to their performance by displaying the players on a list in descending order with best on the top. This game element brings the social and competitive aspect of gamified application. Opinions on the effectiveness of Leaderboards is mixed. Competition caused by this mechanic can create social pressure to increase the player's level of engagement. However, it can also be demotivating for players at the bottom of the list knowing they will never be able to compete with players at the top.
- **Meaningful stories:** This game element provides a narrative context to provide meaning beyond points and achievements. Meaningful stories can enrich boring, barely stimulating context, by offering an implicit way to inspire and motivate players if the particular story is in line with their personal interests.

- **Avatar:** Avatars are a virtual representation of the players within the gamified environment. Usually, they allow the players to express themselves in their virtual identity. This becomes relevant when they become part of a community and begin interacting with other real players. Avatars address the motivational drivers of self-expression and *connecting*.

## Industry Use

The different types of gamification markets include:

- **Gamification Marketing:** Many businesses are leveraging the widespread use of mobile devices to transform the traditional card loyalty program into a proprietary mobile app. Starbucks is one notable example, because they are known for their customer care, loyalty and engagement. After registering in their app, clients gain stars with every purchase, which are exchangeable for drinks and food. There are three levels a user can reach marking their degree of loyalty.<sup>17</sup>
- **Gamification Crowdsourcing:** This sourcing model often presents itself with gamified elements such as points, rewards or badges to encourage user participation. The game Fold.it designed by the University of Washington made players compete to manipulate proteins into more efficient structures. The user submitted results outperformed the algorithmically computed solutions and helped with research connected to HIV/AIDS, cancer and Alzheimer's disease.<sup>18</sup>

## Canadian Government Use

There is a lack of documented GC initiatives and programs regarding Gamification. This may be due to the fact that the GC is currently grappling with the implementation of Cloud Services, and the majority of resources and efforts are occupied, as well as security concerns related to the protection of the information of Canadians.

Future in-depth interviews and research will need to be conducted with Shared Services Canada (SSC) Account Executives and with client departments in order to ascertain the level of Gamification capabilities that are current and planned for the GC.

However, in 2013, the Government of Canada (GC) initiated the Blueprint 2020 vision in order to modernize the public service that engages citizens and partners for the public good, mobilizes a capable, confident and high-performing workforce, and makes smart use of new technologies.<sup>19</sup> As part of Blueprint 2020 it notes that public servants should not be expected to do the same work for 20 years with the same level of enthusiasm. The repetitiveness of the government can become demotivating. Gamification is a great strategy in bringing the concepts of motivation and engagement.<sup>20</sup>

- **Public engagement:** Some government departments need to continuously share information resources with the general public, i.e. the Public Health Agency of Canada (PHAC) and their Immunization Guide for Health Care Practitioners. Instead



of continuously developing resources that does not reflect individuals, PHAC decided to engage the health care practitioners in the development process of the Guide. Other departments have followed suite by providing quizzes or series of questions in order to get the public's opinion on a particular initiative.

- **Open Dialogue:** The Department for Works and Pensions (DWP) introduced a points system where employees could contribute their ideas and promote those of others. Using their DWPeas points, public servants can invest in concepts at all stages of development and can be gained or lost based on the ideas being selected by higher-ups for implementation much like the stock market.<sup>21</sup>
- **Education and Training:** The goal of gamification in learning is to maximize enjoyment and engagement by capturing the interest of learners and inspire them to continue learning. A study conducted by Badgeville found that 78% of workers use games-based motivation at work and 91% said it improves their work experience.<sup>22</sup>
- **Leadership and Team Management:** The Company Gamelearn developed a leadership and team management simulator called Pacific. This survival game has their characters trapped on an island and the role of the leader is to coordinate the group and manage their escape. Overcoming difficulties awards points and badges and, throughout the game, players develops leadership, communication, task delegation, coaching, conflict resolution, and motivational skills within a team. Pacific is for any professionals wanting to boost their career or improving their ability to manage projects.<sup>23</sup>
- **Defense:** The US Army developed a promotional recruitment tool where candidates interested in enrolling can sign up to download a free game to test their skills in a multiplayer strategic shooter environment to see if they are soldier material. After creating an online profile with their real data, players become part of an online community and they are rewarded points and badges based on their in-game performance.<sup>24</sup>
- **Laws and regulations:** In general, lawbreakers receive a lot of media attention compared to the amount of encouragement received from being a compliant citizen. In 2010, the Swedish Kevin Richardson experimented with rewarding compliance while punishing offenders by developing a speed camera lottery. The device captured the licensed plate and speed of every motorist. The concept is simple: speeders going above the speed limit receives a fine while compliant drivers automatically enter into a lottery to win prizes paid by the fines. The project reduced the average speed of cars from 32 km/h to 25 km/h.<sup>25</sup>

## Implications for Shared Services Canada (SSC)

### Value Proposition

Implementing a Gamification strategy offers a number of benefits for a workplace environment such as Shared Services Canada (SSC). Research shows that adopting game mechanics influences an organization's culture, communication and

performance management by instilling a sense of meaning and providing a feeling of mastery. Shared Services Canada could leverage gamification as part of their daily operations and for training purposes. Here are some of the advantages to adopting a gamified environment:

- **Increases motivation and engagement:** Most employees that have unique skills and talent are willing to offer an organization. Sometimes, these efforts go unnoticed, unrecognized, and they're unmotivated. Gamification offers a way to motivate employees to go beyond their job descriptions. As a result, gamification will prompt behavioral changes such as the players becoming more productive and feeling autonomous in their activity.<sup>26</sup>
- **Gamification uses completion game mechanics:** such as badges, points, levels, and progress boards. Users can view how far they have come and see the achievements they made. Also, by dividing each game components into different levels or stages, the user does not feel overwhelmed by the content while making it engaging to learn.<sup>27</sup>
- **Sense of autonomy and recognition:** While work is not voluntary and gamification is not play, giving employees the power to choose for themselves how they would like to utilize gamification instills a sense of autonomy and choice. This ability creates a deeper and more meaningful engagement and motivation. Research shows that status in the workplace is just as important as financial rewards. In other words, gamification is a great way to see who is performing especially well, and who made progress.<sup>28</sup>
- **Helps learning and training specific skills:** Gaming elements lead to a more engaged learning experience that facilitates better knowledge retention because it provides an effective and informal learning environment. The results provide instant feedback through points and Leaderboard areas enabling employees to compare their benchmarks with theirs from before and to other individuals.<sup>29</sup>

## Challenges

There are several ways gamification can be rendered ineffective. As mentioned above, using badges and points for clearly-commercial activities isn't a magic formula that will prompt positive behavioral changes in the users. Here are a few problems to avoid when considering adding gaming element:

- **Audience:** A different audience will respond differently to the same gamification strategy. one size doesn't fit all and just because a specific strategy worked in one scenario it may not work in another. For example, salespeople are naturally competitive while others prefer a more cooperative environment. Designing a successful gamification strategy requires a clear understanding of the business objectives.<sup>30</sup>

- **Complexity:** Gamification is a challenging endeavor that requires a deep empathy and respect for the “player”, a clear understanding of the mission, and insight into how to motivate them towards the mission. Failure to understand these requirements by adding generic gaming elements will not incentivized and drive positive and long lasting behavior.<sup>31</sup>
- **Generational Adherence:** Although one might think there is a generational gap when adopting this methodology, reports say that there is actually a generational variety in the gaming population. A.list reports that Generation Z (ages 13-17) represents 14 percent of mobile gamers and 27 percent of all gamers, Millennials (ages 18-34) represents 21 percent of mobile gamers and 29 percent of all gamers, Gen X (ages 35-54) represents 18 percent of all gamers and 19 percent of mobile gamers, and lastly baby boomers represent 26 percent of all gamers.<sup>32</sup>

Gamification also poses ethical dilemmas that should be examined by employers before game mechanics are introduced into every day workflows. In the article “More than Just a Game: Ethical Issues in Gamification”<sup>33</sup> the authors developed a useful framework that outlines ethical issues encountered in current gamification implementations.

## Considerations

Shared Services Canada should consider the following risks before implementing a gamification strategy:

- **Purpose:** Organizations must analyze their business operations in order to make sense to gamify their activities. A gamification strategy must be in line with the overall goals and objectives to create meaningful experiences that balances competition and collaboration. Unmotivated point systems, badges, and Leaderboards will reduces the novelty and will result in public servants becoming disinterested and stop playing.<sup>34</sup>
- **Investment and maintenance:** Implementation of a gamification strategy is an imposing endeavor requiring time, expertise, or resources to create an effective, high-quality system to supplement a business' operations. In this ever-changing technology landscape, the gamified system must be up-to-date with the latest trends and feel modern in order to increase user entertainment and engagement.<sup>35</sup>

Gamification at its core, is a tool to motivate workers, and it is *one* tool out of many that can achieve this goal. Those looking to motivate their workforce must consider if gamification is the right tool to use for the specific goals they have in mind.

For managers considering implementing a gamification strategy, they should work through and answer these main questions:

### 1. Does it take unfair advantage of workers (e.g., exploitation)?

The gamification of labour, if successfully implemented can make repetitive tasks seem more fun than they are usually perceived and can motive workers to be more

productive. An ethical issue arises when workers aren't being fairly compensated for the rise in their productivity levels. When entering the gamification mindset, employers are seen as the providers of the game and employees as players. The players in this case aren't participating for badges and points, but for their wages. Employers occupy a unique role where they not only provide work, but they are also the ones reaping all of the returns generated from the work of employees. When in this context, if workers are provided with only "in game" rewards for their increase in productivity rather than fair wages, then it becomes a case of exploitation. To elaborate on this point, take Amazon and their attempts at gamifying warehouse fulfillment work. In fulfillment centers, workers must stack and organize items that are to be shipped out. They have the option of "playing" stacking games that translates real world productivity into virtual achievements like a car driving around a race track or a castle being built, among others.<sup>35</sup> Performance metrics are virtually displayed and employees need to work towards meeting them. However, these same metrics are decided upon by the employer and can be changed at any time at their discretion. The combination of gamification and technology puts the employer in a unique position of power where they can control productivity to a high amount and they can pull this "lever" whenever they choose.

### **2. Does it intentionally or unintentionally harm workers and other involved parties?**

Through gamification, it is possible for employers to harm (physically and psychologically) their workers by creating competitive environments and unrealistic productivity benchmarks. In the case of Disneyland Resort Hotel in Florida, a gamification initiative made workers anxious about job security and coerced them into working faster, causing more injuries.<sup>36</sup> The hotel created a system where the work done by cleaning staff (washing laundry, cleaning rooms, etc) could be tracked in real time and management had a public scoreboard that tracked and ranked every employee's rate of productivity. Laundry machines could also detect how fast they were being loaded and flashed red when the loading was deemed too slow. This created an unfriendly and competitive environment where workers raced against each other, often skipping bathroom breaks and workers with disabilities or who were pregnant fell behind. This fast pace, spurred on by the fear of not meeting expectations, increased the rate of injuries among workers.

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