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# ***An Inquiry into Gamification Services: Practices, Experiences and Insights***

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## **ABSTRACT**

Adding game mechanics and game design thinking into non-game scenarios, known as gamification has demonstrated impact in improving engagement, nurturing attitude and behaviour, and facilitating learning. Gamification techniques applied in business commonly aims to engage customers as well as employees, often respectively implemented as customer-facing websites and employee-facing internal applications. However, as gamification rises in popularity within the business community, companies may feel pressured to start applying it to their websites and business processes and may do this without a thorough understanding of what it entails or how to proceed. In order to get insight into the best practices of business gamification, this paper discusses findings based on semi-structured interviews conducted with four senior management of companies with extensive knowledge of and experience with gamification, covering five main themes: methodology, design, administrative, issues and insights. The aim is to provide understanding of the design and implementation of gamification projects in business and to demonstrate the potential of extracting considerations for gamification design and development based on the experience of gamification vendors.

**Key words:** Gamification, business, interviews, design principles

## **1. INTRODUCTION**

As business gamification rises in popularity, more companies will be exposed to its potential benefits. Despite this rise in popularity, a large majority of gamification projects have been predicted to fail (Harbert 2014). This prediction is primarily based on the poor initial design as opposed to the technology used. This is an indication that the various CEO's, entrepreneurs, CIO's, marketing managers, as well as the newer roles of CXO's and Chief Engagement Officers will require appropriate advice and best practice guidance for applying gamification to their business.

With this in mind, this paper aims to explore the views of companies that have provided extensive gamification services to business clients on designing and implementing gamification projects in order to identify best practices in business gamification. Section 2 provides a brief background on gamification for business, followed by Section 3 that describes the study methodology. Section 4 summarises the findings and the paper is concluded in Section 5.

## **2. BACKGROUND**

Deterding et al. (2011) describe gamification as the process of using the design characteristics and processes of games, particularly electronic games, in non-game contexts. It is the application of game mechanics and game design thinking to non-game environments to increase user engagement and solve problems. Game mechanics are a set of rules that facilitate how a game is played (e.g., achievements, juicy feedback); game design thinking is about using the approach to design games, which includes providing an engaging experience to users.

Gamification has been gaining popularity since, although its practices have been used throughout history in relation to games. In 2007, Bunchball was the first company to provide gamification as a service (Paharia 2013). The reason for its recent rise in traction is probably linked to social factors as well as a convergence of various technologies – the growth of the electronic games industry, increased computer processing power, the internet, mobile devices, “web 2.0” and social media.

The popularity of electronic games across demographics may have provided a favourable environment for gamification to develop. Today, the average U.S or U.K gamers are in their thirties

and 47% of gamers are female (Galarneau 2014). A need to find ways of increasing engagement of online audiences and consumers as well as engagement of employees in the workplace are the main business drivers for gamification. A commonly cited statistic is that the average new website visitor will spend ten to twenty seconds before leaving. Decreasing bounce rates and increasing site stickiness are essential to e-commerce profitability (Lin 2007). Within organisations, Reeves and Read (2009) argue that younger generations of employees expect work to be as engaging as the electronic games they grew up with; that many employees are bored or frustrated with their jobs and therefore not as productive, focused or fulfilled as they could be.

According to Gartner (2013), gamification had reached the “peak of inflated expectations” by 2013 and the cycle in 2014 suggests that it is currently in the trough of disillusionment; which signals a period where an emerging technology has lost momentum in the expectation. Success stories are touted, as well as failures cited by critics. Gartner (2014) expects gamification to reach the “plateau of productivity” within 5 to 10 years; that is, mainstream adoption begins to take off and more rigid assessment criteria are evident. At this stage, the technology’s general market applications and relevance are accepted (Gartner, 2014). However, it is unclear what best practices exist and disseminating best practices are key for the successful adoption of emerging technologies. In this study we aimed to identify these best practices in business gamification through interviewing companies that have provided extensive gamification services to business clients.

### 3. METHOD

Four semi-structured interviews were conducted with senior management of companies involved in gamification. The sample was selected from a comprehensive list of 116 companies compiled from the gamification vendors provided on the Gamification.Co website, a website that provides guidance to companies interested in gamification. The majority of companies on the list were contacted by email (i.e., a few companies did not seem to qualify as a company that has provided extensive gamification services to business clients) and out of those six initially agreed to be interviewed, four interviews took place in October 2013. The resulting sample represents a good mix of companies applying business gamification for consumer facing and employee facing applications so as to compare and contrast their approaches:

- **Company A** is a small consultancy owned and run by a leading gamification expert; who was the interviewee. The consultancy specialises in *gamification design for consumer facing websites* and is based in California, USA. It does not have its own gamification platform or developers but offers expert advice to companies wishing to apply gamification.
- **Company B** specialises in enterprise gamification, that is, *gamification for internal employee facing applications*. It is based in Israel and the USA. The interviewee is the founder. The company has its own gamification platform, which can be integrated into various business processes including sales, customer service, knowledge collaboration and training.
- **Company C** is highly focused on *the gamification of corporate learning*. It is based in the UK and the interviewee is the founder and managing director. The company has its own gamification platform that can be combined with various learning content to improve corporate training, employee qualification rates and leadership skills.
- **Company D** is a UK based digital user experience agency that specialises in digital marketing and branding. The interviewee is the CEO and former head of innovation. The company has a lot of experience with *the consumer facing side of gamification*.

Taken as a whole the interviews attempted to cover all the main areas relevant to the practice of design and implementation of a business gamification project. Based on our literature review we identified and structured our interview questions around five main themes: methodology, design, administrative, issues and insights (Appendix A).

The *methodology* theme seeks to answer the overall process that the company uses when approaching gamification. It was clear from the literature that there is an overall methodology that can and should be used with gamification. Werbach (2013), defines five core stages – define business objectives, identify target behaviours, describe the players, devise activity loops and finally add the appropriate game mechanics. Paharia (2013) describes a four stage basic methodology of plan, design, build and optimise whereas Kumar & Herger (2013) place more emphasis on understanding the players first, followed by business objectives. Other authors, Duggan and Shoup (2013) and Zichermann and Cunningham (2011) include similar stages to Werbach, but place a stronger emphasis on choosing appropriate reward mechanisms for players.

The other parameters emerged from a more detailed examination of the overall methodology described in the literature. It was clear that without proper design, a gamification project would fail and that this should be a key consideration once a company has examined its business objectives and identified key player types. Design factors include aesthetics, reward mechanisms, the player journey (Paharia, 2013) and anti-gaming mechanics (Duggan & Shoup, 2013). Hence, the *design* theme investigates the basic design considerations for gamification.

The *administrative* theme looks at various measurements such as metrics of engagement and return on investments (Rols). Questions related to *issues* theme were asked to gauge what problems a typical gamification project will have and what the potential barriers to success are. Administrative and issues parameters were naturally included, as these need to be anticipated and investigated for any IT project. Applying gamification to a website or an application is fundamentally an IT project with the added dimension of design factors. Some of the methodologies reviewed provided a brief overview of administrative variables such as building the site, analytics and metrics to use once the site is built and measures for return on investment. Issues commonly found in IT projects include security problems, scalability and user adoption. Duggan and Shoup (2013) for example, note the importance of compliance with data protection laws as a gamified system will generate a lot of user data, some of which maybe deemed personal.

The final parameter, *insights*, was added to gain further knowledge that could be added to the gamification literature. The interviewees had their own unique experiences and industry specific knowledge that could be used to draw further conclusions as to how best to implement business gamification, pitfalls to avoid and possible future trends.

The interviews were conducted through one-hour phone conversations. The findings in the following section are a snapshot of the main findings of the views of the companies.

#### **4. FINDINGS**

The Findings are presented below and are categorised under relevant themes emerged from the analysis. These are: methodology, design, administrative, issues and insights, comprising the overarching themes of research analysis.

##### **4.1 Methodology**

**Company A:** *Company A* adopts its own approach. Stage 1 is to understand the problem and define quantifiable business metrics. There needs to be a benchmark to measure success or failure. Stage 2 identifies the players, without going deep into player types – just the basic demographics (which will be later refined). Stage 3 is the desired actions, which should be broken into small and discrete steps. Each desired action has a motivator to move onto the next action. The win state in the users mind should be accomplished by carrying out the desired action. Stage 4 is user metrics, which are different from business metrics. User metrics are what the user sees – the achievement symbols, badges etc. Stage 5 is assigning the incentives or rewards. It is important to understand and clarify

what is given to the user. The incentives should be based on the eight core drivers to motivate users towards desired actions: meaning, empowerment, social influence, unpredictability, avoidance, scarcity, ownership and accomplishment. The 6th stage is focused the four stages of the player journey: discovery, onboarding, scaffolding and the end game.

**Company B:** *Company B* also has its own gamification methodology. First goals are defined according to the business process, followed by player profiling, designing the required behaviours, design of gamification features, production and installation and finally analytics. At this point, the design may be altered according to the results of analytics. Goals and objectives come from the client company. For *Company B*, gamification is seen as a parallel process to performance management, as “what gets measured gets achieved”. Getting the right metrics are crucial otherwise the result will be wrong. Generally, the main objectives will be around four areas of the business client – customer service, learning, sales and operations and innovation. This is because the company specialises in enterprise gamification.

**Company C:** *Company C* noted that they have an existing platform that was used as a template for each case. This is because the company specialises in gamification for corporate learning; not much work is needed for each new case. They may add new tools that have gamified features. For instance, content authoring tool called ‘Genie’ was added to the existing gamification platform. Large corporations looking to add gamified learning can simply buy the platform ready to go.

**Company D:** *Company D* has developed its own trade marked methodology known as ‘Emotional Ignition’. Various methods are fused with game mechanics for a more powerful result. The software developmental methodology varies depending on the client’s processes but is mainly lean and agile with fast prototyping. Core objectives are defined by the client business and brand. First it is important to understand the main purpose – customer or employee engagement, so as to decide if it is about improved internal environment engagement or external relationship engagement. The next stage is a deep dive into user profiles – ethnographical and anthropological research techniques are used to understand real user needs, barriers and what emotional triggers are needed to guide the user through the experience. User behaviours are distilled into “primary states” which are mapped onto player journeys e.g. drop out point, dwell point, sales conversion. Then the required game mechanics or psychological influences are chosen to cause the necessary effect. Testing involves using the feedback loops built into standard designs. Analytics are used to inform key activity metrics and reveal areas for improvement to the player experience and journey flow.

Table 1 summarises the perspectives of the companies.

**Table 1:** Views on methodology

Company	Methodology
A	Own approach focused on player motivations and metrics 6 stages – understand problem and define business metrics; understand basic player demographics; define desired actions; align incentives/rewards with 8 core drives; design player journey
B	Own approach focused on analytics and metrics Goals defined according to business process; player profiling; required behaviours; design; production; installation.
C	Ready to go gamification platform with configuration options
D	Own trade-marked methodology (‘Emotion Ignition’) with focus on emotions Client defines objectives; deep dive into user profiles; user behaviours summarised and mapped onto player journey; game mechanics chosen according to psychological influence; testing done via feedback loops built into the system; analytics used to improve player experience and journey flow

## 4.2 Design

**Company A:** *Company A* emphasized player types for design, which starts with demographics information, and can involve more later if needed. The approach does not offer a specific formula but it is more agile, where the core game mechanics are further developed to match the player types as an incremental process. It focuses on user experience (e.g., “how users feel”) and then applies from the large tool kit a set of principles. Aesthetics is considered to be less important, but could be useful during onboarding and discovery phases as they are highly context dependent, which means the core shell of design is more important than how it looks. *Company A* makes use of Bartle’s (1996) four player types of explorers, socialisers, achievers, and killers.

**Company B:** When designing for player types, *Company B* has its own system of classification. The company also stated that they would not consider the generic four Bartle types. They focus on the culture of the players – organisational, departmental and even nationalities (as many of their clients are global organisations). There are eight to ten main prototypes used, for example, competitive prototype, service prototype, learning, team building, etc. The core game mechanics used are points, levels, progression, leaderboards and team challenges.

**Company C:** For *Company C*, the gamification platform is pre-designed for core users – populations in the “middle of every company”. The platform is designed to help increase sales or up-skill managers with leadership skills. The content is developed for them and in-line with an awarding body for a particular type of learning e.g. sales, management skills. Aesthetics is fundamental to the company’s gamification approach compared to *Company A* – the interviewee noted that without “eye-candy” features, there are no sales. The aesthetics should be in line with the company brand though and there is a constant iteration around this.

**Company D:** *Company D* also pointed out that designing for player types is critical – as you need to know “who” for, before defining “how” you will create impact. Starting with the fundamentals – age, gender – to initiate the distinction of the experience and therefore the mechanics needed. Simple considerations at this stage such as do you want to create brand advocacy, team spirit, sharing of content or competition? Once the primary audience is known, more detailed user profiles are built. To get additional detail about players, active workshops and webnography techniques are used such as “hanging out” in social communities to gain insights. Adding a virtual economy depends on the experience you want to create. It can be used to guide a range of motivators if done correctly and enables a direct extrinsic reward system. In terms of core game mechanics – they are split into main categories with over 150 specific ones. The categories are onboarding features, loss avoidance, victory conditions, gameplay, progression, feedback, goal and achievement vehicles. *Company D* also suggested that gamification does not typically work well with one or two game mechanics, but it depends on the intensity of the experience you want to create.

Table 2 summarises the perspectives of the companies.

**Table 2:** Views on design

Company	Design
A	Focuses on user experience design and context, aesthetics less important
B	Own classification system with 8-10 different prototypes to choose from
C	Pre-design platform with content developed with clients. Aesthetics is key
D	Focuses on player types and intensity of experience to create

## 4.3 Administrative

**Company A:** Typical metrics and KPI’s analysed by *Company A* include desired actions vs. dropout rate. Also, during the onboarding stage – what behaviours will first time players have that results in behaviour a second time. For example, what did people who spend more than 10 minutes on the

site do during their first time on the site? Then drive new users to those activities and compare with the time spent on their return visit. Generally, metrics are a case-by-case basis; for example with some sites, users need to spend a few seconds on each page, whereas others would require more time. Costs and timeframes vary according to the company and their goals.

**Company B:** *Company B* suggested that metrics are derived from user behaviour in the specific gamified experience and are used to understand the traction of the gamification solution. They employ clickstream analysis within the system – so who clicks, when and where is known. A trend analysis is performed before and after the system is gamified.

**Company C:** For user metrics, *Company C* requires the learner population to upload case studies on usage, including things they have learned through the platform. That is where clarity on Return On Investment (ROI) can be obtained.

**Company D:** From *Company D's* point of view, benchmarking for KPIs can be based on perception and sentiment around an experience – a subjective gauge of player engagement. Metrics are normally personalised to the specific application, where the player journey through the system can be adapted based on the analytics.

Table 3 summarises the perspectives of the companies.

**Table 3:** Views on administrative

Company	Administrative
A	KPI includes desired actions vs. dropout rate. Look for popular behaviours that increase retention and return rates
B	User behaviours inform traction of solution. Using clickstream analysis. Trend Analysis – pre and post-gamification
C	Metrics – users upload case studies on usage; what they've learned from the gamified learning platform and improvements noted
D	Benchmarking for KPIs can be based on perception and sentiment around an experience as well as detailed metrics. Metrics vary according to application e.g. virtual training – learning points, duration of use; consumer sales – time on site, conversion funnel metrics. Variable Dashboards designed according to user needs. Player journey can be adapted to individual using analytics.

#### 4.4 Issues

**Company A:** *Company A* suggested that gamification needs to be designed differently for different devices. With mobiles for example, half the screen maybe covered by a keyboard. Ideally, a customised solution should be designed for each platform, but with limited resources, it means it is better to deliver well on one platform first than doing many that are not as good. Privacy is an issue when it comes to data tracking, where users many not interact with a solution if it is perceived as intruding on their sensitive data.

**Company B:** *Company B* stated that the more frequently a player works with a gamified system the more effective it would be. So in terms of devices, mobiles and tablets may end up with the killer gamified applications. Organisational adoption of mobile gamification is currently low. Main issues include data integration with other business systems and blending the experience with current business processes.

**Company C:** *Company C's* gamification platform works well on all devices and is mobile ready. However, it can be difficult to do large pieces of e-learning on mobile. Data protection is taken very seriously and compliance with European and US law is maintained. *Company C* reflected on their

experience that there were no real change management issues as even older adults, aged 55 and above, initially sceptical, find that they enjoy the gamification features – they like the badges for example.

**Company D:** *Company D* suggested that mobile devices offer extra options such as geospatial data and accelerometers; which add to the volume of engagement techniques. Scalability issues have yet to surface in the company’s experience, but the company was confident that such issues of managing and maintaining the volume of data and development path of players will arise. ‘User fatigue’ is reduced by having a clear understanding of the progression cycle. Techniques are used including breakouts, micro events, progression unlocking, spontaneous rewards and exclusive content based on duration. Change management issues are present as companies want proof of success and ROI figures before committing resources. Gamification represents a “step change” in thinking – only businesses that have fully grasped the need to innovate in their approach to internal and external engagement and collaborate with stakeholders are willing to adopt these new ideas. Also, businesses are typically not set up to review feedback and track data with the depth and frequency that a gamified process offers.

Table 4 summarises the perspectives of the companies.

**Table 4:** Views on issues

Company	Issues
A	Solution needs to be customisable. Privacy – users won’t interact with system if they perceive it as intruding on their sensitive personal data
B	Organisational adoption of mobile gamification is low. Data integration with other business systems and experience design to blend with the business process
C	Works well on all devices, but harder to do e-learning on mobile phones. Data protection important - compliance with national laws.
D	Increasing volume of data. Scepticism among business decision-makers, change management – gamification represents a new way of thinking about, tracking and monitoring user data

#### 4.5 Insights

**Company A:** *Company A* argued that whenever there is human motivation involved and you want people to perform specific behaviours, gamification can work. However, some systems or processes are harder to gamify than others and there is a need to balance between the efficiency of functional design and human focused design. *Company A* also emphasises on the rise of big data in gamification that will correlate various resources to inform on user behaviours.

**Company B:** *Company B* stated that there are a few ancillary benefits to gamification. They are looking into analysing emotion in gamification using big data tools. With regards to the future, the company discussed the possibility of ‘Gamification 2.0’, which along with big data integration will include voice, gesture and emotion recognition.

**Company C:** *Company C* did not identify any ancillary benefits to gamification. It was noted that one or two game mechanics, such as points with badges, are insufficient to produce an effect. Players need “somewhere to go”. The platform works by promoting users to the next level, they are being developed for a role. The on-boarding process is very important and there is a virtual and real world process called ‘Cool Tips’ and the ‘Super Learning Hero’ Certification Programme. *Company C* also emphasises on emotional intelligence in online applications in the future.

**Company D:** *Company D* pointed out that there are different degrees of gamification and any experience could benefit from improved levels of engagement and a better understanding of guiding a player through a progressive experience. However, designers should be aware of functional needs

– gamification should not be used at the expense of the practical. It was also stressed that gamification can be used to amplify existing behaviours and promote new ones equally well. It is about knowing what behaviours need encouraging and the more an individual discovers about himself or herself through the experience, the deeper the acceptance. A lot of autonomy can be engineered into gamified journeys and that is where a person may trigger new emotions that were not explicitly designed to occur. Ancillary benefits include the ability to encourage people to present data without being invasive. Such new data points can be mapped around a person’s demographics to gain new insights. Big data will benefit from gamification.

Table 5 summarises the perspectives of the companies.

**Table 5:** Summary on insights

Company	Insights
A	Most processes involving motivation can be gamified. Trade off between functionality and design. Rise in the importance of big data and analytics.
B	Emotion in gamification using big data tools. ‘Gamification 2.0’-big data integration including voice, gesture and emotion recognition.
C	Gamification is one solution to increasing engagement. To add another layer of engagement – need emotional intelligence in applications
D	User autonomy designed into gamified system can promote existing behaviours and new ones. Big Data – gamification can acquire lot of data on people in without being intrusive; new insights can be gained from mapping data points around user profiles

## 5. DISCUSSIONS

Although the four companies differ in their views on how to design and implement business gamification, various commonalities are to be observed from which we can identify best practices. The first main finding is that all four companies indicate *a great emphasis on avoiding de-humanising the target users by using trivial mechanics in hope of engaging them as a common entity by performing player profiling instead and emphasizing motivations and emotions in order to establish an engaging user experience*. This is a practice that the game design community has embraced (Isbister & Schaffer 2008) but which has not always found its way in gamification projects (Deterding, 2011). The companies with customer facing focus (Companies A and D) for instance emphasise on player profiling using their own framework with Company D indicating the importance of emotions in the profiling. Company B with focus on employee facing application has also indicated the importance of emotions in gamification design. Company C is also employee facing but they adopt a more bespoke approach in the form of customisable templates for clients to choose from. This explains the emphasis on aesthetics by Company C. Hunicke et al. (2004) highlighted on the relationships between mechanics, dynamics and aesthetics in order to understand games design towards fostering the desired player experience. The mechanics refers to the features that will cause some actions to be carried out. Duggan & Shoup (2013) suggest the first stage in selecting game mechanics is to choose the right rewards. Rewards can be broadly divided into recognition, privileges and monetary. Zichermann and Cunningham (2011) identify 7 core game mechanics for gamification – points, badges, leaderboards, levels, challenges and quests, onboarding and engagement loops. As these elements will form the crux of any gamified system, it is important to examine them in more detail. A typical gamified business system will not necessarily contain all these elements. The companies also stress that the choice of game mechanics should map against the business objectives, the profile of the target audience and the desired behaviours, which will lead to a more structured journey for clients or customers. This will determine the overall dynamics or experience, which include guiding users along specific paths in a more fun and engaging way, while at the same time, increasing the rate of desired behaviours. Aesthetics play an important part in gamification, but only if aligned with the purpose of the application and the company brand; as Company A, C and D pointed out. There is no point designing wonderful, detailed sound and graphics

for a senior management leadership application, for example, if senior management will regard it as trivialising their roles.

This focus on the user links to the company suggestions on *big data integration and analytics*, which is the second main finding. Analytics and optimisation are part of a gamification activity and feedback life cycle that involve taking measurements of the required behaviours and KPI's of a gamified system. Werbach (2013) defines these dynamics as engagement and progression loops. Different reward systems can be used and placed on variable schedules to induce surprise and maintain player interest. The issue of 'user fatigue' can be reduced by having a clear understanding of the user and gamification progression cycle, and the inclusion of new and fresh content and functionalities to meet the progression. Information such as increase in users, user retention, most valuable users and where people are dropping out of the system can be identified. A more in-depth analysis of user behaviours might move into the realms of emotional intelligence and emotional seduction in online applications but for now it has been useful in identifying player types and measuring performance metrics such as on-boarding. The use of 'game analytics' is on the rise (Seif El-Nasr, Drachen, & Canossa 2013); however, it is not as commonplace in game industry yet. So in this case gamification may take a leading role on big data integration and analytics as opposed to adopting techniques from the game industry.

The third main finding integrates the first and second main finding into *a procedure for designing and implementing gamification*. The companies are using their own design framework to help map player types and behaviours, which influence the development of gamified solutions specific to their clients' needs. Distilling from the methodologies the companies deploy, we can conclude that companies looking into employing gamification should: (1.) Understand the business objectives and define more specific goals; (2.) Define the behaviours that will lead to business objectives; (3.) Understand the target audience or players; (4.) Apply game mechanics according to the player types and desired behaviours; and (5.) Analyse behaviours, measure results and optimise accordingly, in order to achieve success in applying gamification in business.

## 6. CONCLUSION

The paper provides an overview of the perspectives of gamification service providers on the considerations and approaches employed based on the gamification methodology, the design considerations, the administrative attributes, the perceived issues and insights on the current and future gamification for business. Though differing in some perspectives, all companies agree that considering the characteristics of the users is key to ensure that the right gamification mechanics, dynamics and aesthetics are considered. This paper demonstrates the relevance and importance of engaging gamification vendors towards understanding how gamification is being applied and what considerations inform the design and development of the solutions. Findings have also demonstrated that the application of gamification for business may have truly adopted game design thinking in their approaches. The current study represents a good mix of companies and though the sample size is small, the perspectives provide insights into the considerations and the techniques utilised which could inform the decisions on choosing gamification as a solution and the considerations for design and application of a gamified system. Further work will be built upon these findings, which will include extracting views and perceptions from a larger set of companies as well as from the user community in terms of gamification applied in a customer facing and employee facing scenarios.

## REFERENCES

Bartle, R. A. (1996). *Heart, clubs, diamonds, spades: Players who suit MUDs*. [Online] Available at: <http://www.mud.co.uk/richard/hcnds.htm> [Accessed: 08/09/2013]

Charette, R. (2005) Why Software Fails. IEEE Spectrum. 42 (9), pp. 42-49.

Deterding, S., Dixon, D., Khaled, R., & Nacke, L.E. (2011). Gamification: Towards a Definition. The ACM CHI Conference on Human Factors in Computing Systems, Vancouver, B.C.

Deterding, S. (2011). Situated motivational affordances of game elements: A conceptual model. Presented at Gamification: Using Game Design Elements in Non-Gaming Contexts , a workshop at CHI 2011 .

Duggan, K and Shoup, K. (2013) Business Gamification for Dummies. Hoboken: Wiley and Sons.

Galarneau, L. (2014) Global Gaming Stats: Who's Playing What and Why? [Online]. Available at: <http://www.bigfishgames.com/blog/2014-global-gaming-stats-whos-playing-what-and-why/> [Accessed: 20/02/2014]

Gartner (2013) Gartner Hype Cycle. [Online] Available at : <http://www.gartner.com/newsroom/id/2575515> [Accessed 28/06/2014]

Gartner (2014). Gartner Hype Cycle. [Online] Available at : <http://www.gartner.com/newsroom/id/2819918> [Accessed 01/07/2014]

Harbert, T. (2014) Giving Gamification a Go. Computerworld. 48 (1), pp.12 – 16.

Hunicke, R., LeBlanc, M., Zubek, R. (2004) MDA: A Formal Approach to Game Design and Game Research. Proceedings of the Challenges in Game AI Workshop, Nineteenth National Conference on Artificial Intelligence.

Isbister, K., & Schaffer, N. (Eds.). (2008). *Game usability: Advice from the experts for advancing the player experience*. Burlington, MA: Morgan Kaufmann Publishers.

Kumar J. & Herger, M. (2013) Gamification at Work: Designing Engaging Business Software. Aarhus: Interaction Design Foundation.

Lin, J.C. (2007) Online Stickiness : Its Antecedents and Effect on Purchasing Intention. Behaviour and Information Technology. 26 (6), pp. 507 – 516.

Paharia, R. (2013) Loyalty 3.0 : How to Revolutionize Customer and Employee Engagement with Big Data and Gamification. USA : McGraw-Hill.

Reeves, B. & Reed, J.L. (2009) Total Engagement: How Games and Virtual Worlds Business School Press.

Seif El-Nasr, M., Drachen, A., & Canossa, A. (Eds.). (2013). *Game analytics: Maximizing the Value of Player Data*. London, UK: Springer.

Werbach, K. (2012) For the Win: How Game Thinking Can Revolutinize Your Business. [Kindle e-book]. Wharton Digital Press.

Werbach, K., (2013). Coursera Course: Gamification. [Online]. Available at: <https://www.coursera.org/>

Zichermann, G. & Cunningham, C. (2011) Gamification By Design: Implementing Gamification in Web and Mobile Apps. Sebastopol: O'Reilly.

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### **APPENDIX A: INTERVIEW PROTOCOL**

#### **Theme – Methodology**

- Is there a specific methodology or “technology roadmap” you use when applying gamification?
- How do you identify the core business objectives?
- How do you identify core user behaviours?
- Do you link your the required user behaviours to motivations which can then be linked to specific game mechanics?
- What testing procedures do you use once the app / site is gamified?
- What would you define as the hardest, most problematic stage when implementing?

#### **Theme – Design**

- How important is it to know your user / player types before designing a gamification program?
- How do you ascertain the core player types / users of a website or application?
- Is a virtual economy an essential component of a gamified system?
- Do you have a prescribed or ideal ratio of virtual to real rewards?
- Does gamification work equally well across platforms and devices?
- What are the core game mechanics you use?
- Can gamification work well with just one or two game mechanics?
- Can you describe the importance of aesthetics for the user experience?

#### **Theme – Insights**

- If you had to pick the most important game mechanics what would they be?
- Is just applying a feedback mechanic, without rewards, levels or badges sufficient to improve user metrics?

- Do you have any predictions for future trends in gamification?
- Are there any websites or applications you would not recommend to be gamified?
- Is gamification best used to amplify existing user behaviours or can it be used effectively to promote new behaviours?
- Are there any websites or applications you would not recommend to be gamified?
- Have you noticed any ancillary benefits to gamification?

**Theme – Administrative**

- Are there any standard metrics you use when measuring pre- and post-gamified sites / apps?
- What dashboard facilities do you offer?
- Do you have an onboarding process or techniques for increasing user adoption?
- What are the estimated costs and timeframes for gamifying a typical site or app.?

**Theme – Issues**

- Are there ever issues with scalability and if so how can these be overcome?
- Are legal, data protection and privacy issues a major hurdle when applying gamification?
- Have you noticed any negative aspects of gamification?
- What systems do you recommend for protecting against “gaming the system”?
- Have you noticed any declines in user engagement post-gamification?
- Do you apply techniques / mechanisms to reduce “user fatigue “?
- Can you identify any potential causes of failure for gamification projects?
- What change management issues / barriers to adoption do companies tend to face and how can they be overcome?