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## Abstract

The basis of this master's thesis is the curiosity regarding the relatively new term "gamification", which is the use of game elements and game mechanics in non-game contexts in order to engage users and solve problems. The phenomenon is predicted to be a bigger and bigger part of most companies' marketing strategy in the near future. The idea behind gamification is that the addictive and engaging qualities of video games can be transferred to interactive experiences made by a company to increase user engagement and loyalty.

Since gamification is built on the basis of game mechanics and elements, I hypothesized that the study of game design could improve the user engagement of gamification. With the problem statement: *"How does gamification drive user engagement? How can the user engagement be improved by theories of game design?"* I compared two examples of gamification campaigns to the ideas posed in popular books on the topic and made a cross-cultural analysis to answer the first question. As expected, the campaigns used some game elements but overlooked others, mainly the social aspect of game playing. For the second question, I studied game design theory and compared the lessons to gamification. I found that some aspects of game design is overlooked in gamification, such as the joy of a challenge, intrinsic rewards and motivation to play, and playing autonomously. These aspects along with the power balance between the user and the

company and the threat of gamification being a temporary fad are the major challenges to the phenomenon. Overcoming some of these challenges might improve the user engagement of gamification.

## Intro

In 1981, American Airlines introduced AAdvantage, a frequent-flyer program where people can earn miles from flying. The miles can be spent on services, but more importantly, loyal customers can earn the status of receiving silver, gold and platinum memberships. Today, frequent-flyer programs are perhaps the most known loyalty programs and most major airline has one [29, p.8]

Gamification is a relatively newly emerged word used to describe the design of interactive experiences using game elements and the competitive instinct these elicit. Designing experiences with game elements such as points, badges, levels and achievements can drive user engagement and loyalty. It is a modern rendition of the loyalty programs described above but with many notable differences.

The term 'gamification' did not gain widespread usage until 2010 [32] which means its benefit is still debated. Some dismiss it as a temporary fad while others praise the psychology behind the human interaction with this kind of interactive design and the possibilities surrounding its use. As part of an industry in rapid growth, it also has synonyms and variants that can be confusing to the uninitiated, such as productivity games, surveillance entertainment, funware, playful design etc [10, p.1]

Nevertheless, studies by Gartner Research (one of the world's leading information technology research companies) show *"By 2015, more than 50 percent of organizations that manage innovation processes will gamify those processes, according to Gartner, Inc. By 2014, a gamified service for consumer goods marketing and customer retention will become as important as Facebook, eBay or Amazon, and more than 70 percent of Global 2000 organizations will have at least one gamified application"*[33]. When a phenomenon is predicted to grow this popular, it merits extensive research.

Playing games has always been a wide held activity for mankind and the popularity of games is probably the driving force behind the popularity of gamification. Since gamification has roots in games, the knowledge of what a game is might shed some light on the nature of gamification. Do we really know if a game is the graphics, the interface, the story or the gameplay. Do we know why people play and how they play? We should be able to study theories of games and gameplay to see if gamification holds any relation to the things that make playing games so attractive to us.

Gamification itself has received relatively little academic attention. Most literature written on the subject of gamification is authored by "gurus" such as Gabe Zichermann and Jane McGonigal who specialize in consulting companies on game-based marketing. As such, the books do not appear as academic and peer reviewed as the literature

surrounding games in general. This is one of the reasons why I will ground my analysis in the theories of games and game design where the theories have been heavily researched for decades.

This leads to the curiosity that provokes my research question. Gartner Research shows a promising future for gamification but when a phenomenon is shrouded in non-academic pop-literature I wonder if it can be improved with theory from the thoroughly studied field of game design. It appears that the purpose of gamification is to “drive user engagement” like early loyalty programs incentivized customers to return. With this in mind, I am curious as to how it works and how it can be improved.

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#### **How does gamification drive user engagement? How can the user engagement be improved by theories of game design?**

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The nature of academics is about standing on the shoulders of giants [34] and this thesis will hopefully help gamification get up there. I hope to improve gamification as a phenomenon by describing this parallel to game design theory. Perhaps my findings can be used to justify whether or not gamification should have a place in a company’s innovation strategy. Since gamification is such a new phenomenon and surrounded by the hype that is apparent from Gartner Research, I believe the merit of this thesis is clear. Hopefully my thesis can also be

used for future research on the topic because my research has its limitations.

### **The limitations of the research**

In this thesis I could have asked a number of companies who use gamification strategies about the success of such campaigns. The answers could have been used to find out how effective gamification actually is in terms of return of investment or building brand loyalty. I could also have interviewed regular people about their experiences with gamification and what draws or repels them from gamification. This could have been used to propose improvements to the phenomenon. Instead I have chosen to look at the very nature of gamification and how it drives user engagement. How I plan to do this is explained in the next section.

## Thesis Composition

To give a better overview of the thesis, what it consists of and how it is put together, I have included this section. Apart from the introduction, methodology section, bibliography and various other practical sections, the thesis is divided into four larger sections.

In the first of them, I will look at what a game is through the lenses of game design theory. With well established works in the field of game design, I will look at what makes games intriguing, the nature of why we play and what game consists of. By including this section, not only will I have a better understanding of the games that gamification consists of, I will also have a better understanding of what it takes to make games engaging. The purpose is to put these theories of good and engaging games into the perspective of gamification to see where they are similar and where they differ. Some would call the first section my “theory section”.

The second section will be a thorough look at the state of gamification, looking at the most popular contemporary pieces of literature on the topic, and describing two case examples of gamification in practice. This section functions as a cross between a theoretical section (the theories and literature on the topic of gamification) and an empirical outline (the two cases).

In the third section, I will look at the qualities and elements of the two gamification case examples and see if it adheres to the theories of gamification in practice (also from section two). In this thesis, it is important to understand the difference between theories of game design and theories of gamification. **Theories of game design** are in section one and will be used to discuss the quality of gamification as a phenomenon and to advice improvements in user engagement. **Theories of gamification** are in section two and will be used to discuss the quality of the case examples of gamification and how they currently engage users. This third section will conclude with a comparison between the two case examples to see if there are cultural differences in gamification.

The fourth and final section is where all three previous sections culminate. I will use what I have learned about user engagement in the “tried-and-tested” theories of game design and look at gamification both in the form of the theory of gamification and the case examples. If I find flaws in the user engagement of gamification or evaluate that it can be improved by game design theories, I will propose some solutions. The section can be considered an analysis or a discussion.

The composition of the thesis is illustrated here:

1

- **Theories of Game Design**

- The nature of gaming and play
- Defining games
- Game Design and mechanics

2

- **Gamification Outline**

- Defining gamification
- Using gamification
- Examples of gamification
  - McDonald's Coinoffers
  - Coca Cola's Happiness Quest

3

- **Analyzing the cases**

- Is Coinoffers good gamification?
- Is Happiness Quest good gamification?
- Cultural differences in gamification

4

- **Gamification pitfalls and discontents**

- Game mechanical flaws in gamification
- The great extrinsic vs. intrinsic debate
- The voluntariness of play
- User value vs. business value
- The lifecycle of a technological revolution

## Methodology

In this section of the thesis, I will account for my ontological and epistemological stance, leading to my paradigmatic stance. I will also describe what kind of research I plan to use when writing the thesis as well as the technique used to acquire the specific research.

## Paradigm

Paradigms have to do with the question “what is science?” which is often split up into an ontological and epistemological discussion. The ontological stance has to do with how the scientist sees the relation between the nature of the world and the nature of reality, and the epistemological stance has to do with the relationship between the scientist and the world. Together the two stances will account for how we define “good” science [2].

The reason why it is important to state my ontological, epistemological and paradigmatic stance is that it will define the way I work in the thesis, how I do my research and ultimately the conclusion of it. The number of paradigms is something that researchers of the philosophy of science do not entirely agree on. I will not go into too much detail about the multitude of paradigms or the discussion on which is preferable as I agree with Egon G. Guba. He claims that a discussion is irrelevant as all paradigms have their merits and deserves to be

considered. Guba’s view is that there are four paradigms: positivism, post-positivism, critical theory, and constructivism [13, p.27].

## Constructivism

I personally have a constructivist approach to science. According to Bryman who also acknowledges constructivism as a paradigm, this means acting upon the environment to acquire and test knowledge and believing that social phenomena and their meanings are being accomplished by social actors [4, p.19]. In the basic form of the word, constructivism refers to the belief that many different constructions or realities are possible. As such, scientific research becomes a subjective matter in one way or the other. One possibility is a subjective opinion on the topic of research before the research has begun, which in my case would be some form of opinion on gamification or game design in relation to marketing. A different possibility is that a subjective opinion might become apparent during the research itself, which again would affect my research [13, p. 25-27].

I feel the need to account for some of the thoughts in constructivism that will impact my research. The first is the belief stated above that “reality exists only in the context of a mental framework (construct) for thinking about it” [13, p. 25]. It is a relativist approach to ontology and relates to the ontology described earlier as how the researcher sees the relationship between the nature of the world and the nature of reality. Next is the epistemological stance of constructivism which is



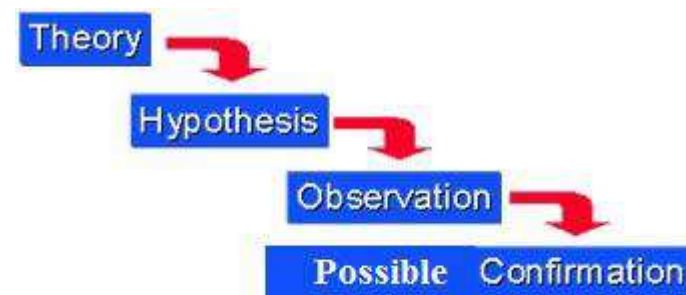
subjectivist. The findings in my research are a product of the interaction between me and the topic. As Guba says, *"If realities exist only in respondents' minds, subjective interaction seems to be the only way to access them"* [13, p. 26]. The consequence of these relativist and subjectivist thoughts are that my findings can never be seen as an ultimate truth because they are a human construction.

Guba believes that the ontology and epistemology distinction is void with a constructivist paradigm because there will always be a certain degree of subjectivity and the answer to a problem is always created between the researcher and the area of research [13, p. 26]. On the other hand, Collin and K ppe still deem it relevant because reality is created by people with a shared knowledge. Their examples of this often include the impact that a collective mindset in a society can have on reality, such as if all the men in a country believe that women are weak then the women will be treated as such because they start believing it themselves [6, p. 251-252]. I acknowledge that there are different views and keep that in mind when conducting research. An example of this is that I am aware of my preconceived notion towards gamification. I have played video games my whole life and have opinions on what constitutes a good game and the ethics behind using video games for marketing. I am aware that these opinions might impact the result of the project but embrace the fact that the results are a construct of my thoughts including these preconceived opinions.

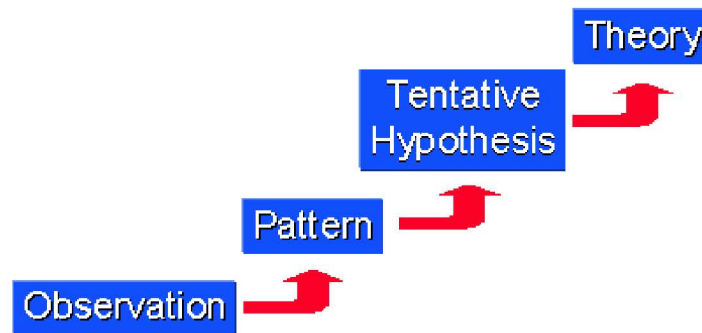
## Induction and Deduction

One of the reasons why constructivism does not support an ultimate truth is because of the problem of induction. Induction and its counterpart deduction is also something I keep in mind when conducting research. I do this because I believe in drawing conclusions both by working from the general to the specific and from the specific to the general. Next follows a description of deduction and induction and examples of how they can be used in my research.

Deduction is also called a top-down approach because it begins with a theory about a topic, in my case that could be "gamification drives user engagement" which consists of theories such as "games drive user engagement", and "gamification and games share important qualities". Then the theory is narrowed down to a hypothesis as shown in the model below, and after making some observations in favor or against the hypothesis, we can either confirm or deny the original theory [27].



Induction is somewhat the opposite of deduction and is also called a bottom up approach. With this approach we start our reasoning with an observation such as “The McDonald’s Coinoffer campaign uses game design elements”, and then try to apply the observation to a more general pattern. This hopefully gives us a hypothesis that can later be used for a general theory [27 & 30]. The problem in creating the pattern is that the tentative hypothesis can be completely undermined by a new observation. The classic example is the man who has observed swans his whole life and concludes that they are all white. Therefore, we can only talk about the degree of strength in the inductive hypothesis and theory.



Using one of these approaches does not mean excluding the other, and as such I will use both in my research. The reason for using both is that deduction is good for all-or-nothing conclusions meaning that if the premises of the deductive reasoning are true then so is the conclusion (whether or not it confirms or denies does not matter).

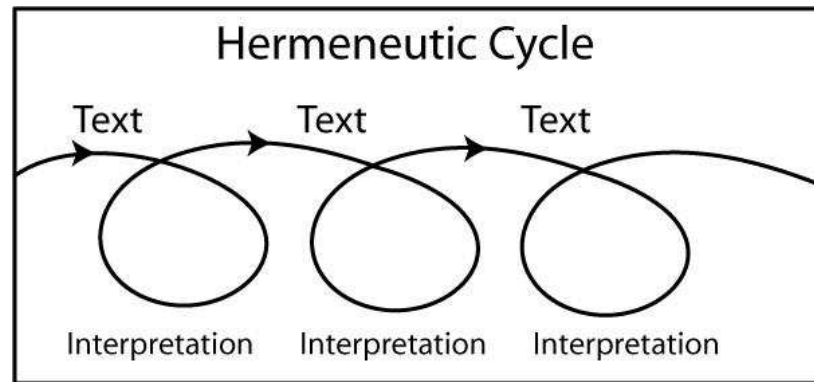
Induction, however, is more open-ended and exploratory and works well in the early stages of research. As we can see in the models above, research could easily go from theories to observations and back to theories again, if both approaches are kept in mind [27]. Going back and forth between small parts and more general theories is also the topic of the next small section, where I will discuss hermeneutics.

## Hermeneutics

The principle of hermeneutics is something so widely known and used in academics that it almost feels redundant to explain it here. Nevertheless, I will describe it briefly and how it affects the way I do research in this thesis.

To understand something completely it is necessary to understand the different parts of it [6, p. 140-141]. When it comes to constructivism, I have already explained that it involves many different constructions but it is important to depict these as accurately as possible. This can be done with a hermeneutic methodology that involves repeatedly going back and forth between constructions [13, p. 26-27]. When this “going back and forth between constructions” was first explained, it was called a hermeneutic circle, but it has later been refined to a hermeneutic spiral. The reason for this is that we have realized that each time we return to a construction, the new knowledge we have gathered will have altered our view and thus the construction. In this thesis, the understanding and interpretation of a text creates a

hermeneutic spiral because I will initially read a text that will impact my research and later return to it having learned more about gamification. Thus, by going back and forth between smaller sections and the whole my constructions are altered [6, p. 140-154].



### Qualitative research

As with many things in philosophy of science, qualitative research is easiest defined by its opposite. The opposite of qualitative research is quantitative research. Quantitative research tries to generalize with objective and systematic analysis of empirical material. Bryman describes it as embodying a view of social reality as an eternal, objective reality [4, p. 21-24]. When taking my constructivist paradigmatic stance into account, quantitative research appears to contradict the subjectivism of constructivism. Perhaps this is why qualitative research is more widespread for constructivists.

*"...constructivists often do qualitative research because this kind of*

*research is especially fruitful in order to answer the kind of research questions these researchers favour"* [2].

With a constructivist approach, we know that research is a product of the interaction between the researcher and the material he researches, and the qualitative approach is similar to this. The qualitative approach seeks to decide the character of something by analyzing the *"naturalistic description or interpretation of phenomena in terms of the meanings these have for the people experiencing them"* [19 p. 2 & 18, p. 68-70].

In this thesis, I only use qualitative research in the form of textual analyzing and interpretation. I could possibly have used quantitative research such as questionnaires with people who have encountered gamification, but ultimately I decided not to. Taking my constructivist stance into account, refraining from using quantitative research makes it easier to subjectively interpret my empirical material.

### Research technique

The research design I feel best addresses my research question is a case study. Case studies have often been criticized for: being too context-dependent, that one cannot generalize on the basis of an individual case, that a case study is more useful for generating hypotheses and not for testing it, that it contains bias towards verification, and that it is difficult to summarize afterwards [12, p.

219]. However, I agree with Flyvbjerg when he says that case study is essential for the development of social science and in understanding the degree to which certain phenomena are present in a given group [12]. I also agree with Kuhn when he says that “*a discipline without a large number of thoroughly executed case studies is a discipline without systematic production of exemplars, and that a discipline without exemplars is an ineffective one*” [17, p. 7-22]. When it comes to the criticism of case studies being subjective, I do not think this necessarily is a harmful thing, as my previously described view of subjectivity in the epistemological area of constructivism defends subjectivity as the only way of unlocking the constructions held by individuals [13]. As Guba describes it: “*if realities exist only in respondents’ minds, subjective interaction seems to be the only way to access them*” [13], so I choose to embrace the fact that case studies are subjective.

The more grueling criticism of case study, it being that one cannot generalize on the basis of an individual case, is addressed by Flyvbjerg by giving various historical examples of case studies being vital for scientific breakthroughs and by quoting several theorists who agrees with him [12 p. 219-224]. However, considering my constructivist stance and it reflecting that social phenomena should be in constant state of revision and improvement, I do not think generalization is that important. Particularly not considering my research will be the only

one of its kind because of my unique interaction with empirical material. If there are as many truths as there are minds of people [13] then generalization seems less and less imperative. Furthermore, saying that you cannot generalize on the basis of case studies is to confuse case studies with surveys. Surveys are intended to be able to generalize to a larger universe because one can draw statistical generalizations from the larger numbers. Case studies, however, are meant for *analytical* generalization [28, p. 43].

In this thesis I have to choose which case or cases I am going to use. Usually cases are chosen because they are critical cases, extreme or deviant cases or paradigmatic cases [3]. Another way to categorize cases is to divide them into illustrative case studies, exploratory case studies, cumulative case studies or critical instance case studies [35]. I have chosen two cases that I believe to be paradigmatic for the topic of gamification and they work as illustrative case studies for me.

Illustrative case studies are used to show what a situation is like, making the unfamiliar familiar and to give basic practical knowledge of a topic [3]. It works well when evaluating cause and effect which I think makes it perfect for my research question. The first case is McDonald’s Coinoffers campaign that is arguably the best known gamification campaign in Denmark. It has existed for quite a few years and evolved over time. The other case example is Coca Cola Japan’s Happiness Quest which I chose because it would allow a cross-cultural

analysis of gamification. A cross cultural analysis is interesting because it can be used to research whether or not gamification theory can be used universally. If it cannot, then the perceived user engagement of gamification suddenly has geographical limitations that affect its use in a global setting. With my cases, I hope to be able to see which game elements in gamification drive user engagement. Another reason for using two cases is that analytical conclusions arising from two cases are more powerful than those from a single case study [28, p. 61].

Data collection for the two cases was done in two different ways. In the case example of McDonald's Danish Coinoffers campaign, I could collect a lot of the data through observation when downloading the Coinoffers mobile application. In addition to my own observations, I saw the promotional videos from McDonald's and read articles about the campaign from third-party technology news sites. I believe there is a high degree of validity when using this method of data collection. If I had chosen to use participant observation or interviews, I could have collected valuable data concerning the effects of the campaigns, but I would have had to consider the validity of the statements from multiple sources. Simply using my own observations and documented sources erases some of the uncertainty involved in the judgmental nature of participant-observer relationship [36].

In the case of Coca Cola Japan's Happiness Quest, it was much harder to collect data because of the culture and language gap. I did not have

the possibility to download the mobile application and even if I had, the language barrier might have proven difficult. Furthermore, there were not many English articles about the case. I gathered the material to support and describe the case through a few English articles about the case and through translating Japanese company communication. I realize there is an amount of uncertainty involved in using as few data collection sources as I have, but I ultimately chose for it because of the illustrative nature of my research. Had my goal been to use the cases for more than simply illustrating and explaining a few examples of gamification, I could have chosen an exploratory case framework and centered the thesis on giving advice to McDonald's for the future of their Coinoffers campaign. Though it would have been interesting to investigate how well gamification has worked for the companies involved in my cases by asking participants, ultimately the purpose of my case work is to get a better understanding of the concepts at work and as a theoretical contribution to the new phenomenon. My cases are described in more detail in the gamification outline section.

## The Game

It is important to determine what a game is for this thesis, because the word and several variations of it will be used extensively. When talking about gamification, game design, gamified experiences etc, it helps to have had a discussion about what “game” refers to.

The Dutch cultural historian Johan Huizinga wrote about play and its relation to culture in the book “Homo Ludens”. He argues that playing is essential for the culture in that it arose before culture. The two are linked in a symbiosis which makes playing an essential part of everyday life. However, Huizinga argues that playing as a process is not “ordinary” life, but something extraordinary [14, p. 8-17]. This relates to what game designer Jane McGonigal writes in her book “Reality is Broken” about how games impact our lives. She believes that through games, we get motivated to pursue our own happiness and by solving tasks that challenge us, we are rewarded with chemical processes in our brain that trigger happiness. The result is that playing games successfully becomes an easy way to become happier, in contrast to real life where rewards can be very hard-earned [21, p. 45-49]. This explains some of the theoretical appeal of gamification – satisfying rewards from easy games can be addictive. The reason I couple Huizinga and McGonigal is because there seems to be a connection between Huizinga’s ‘meaningful play’ and McGonigal’s ‘play with a purpose’.

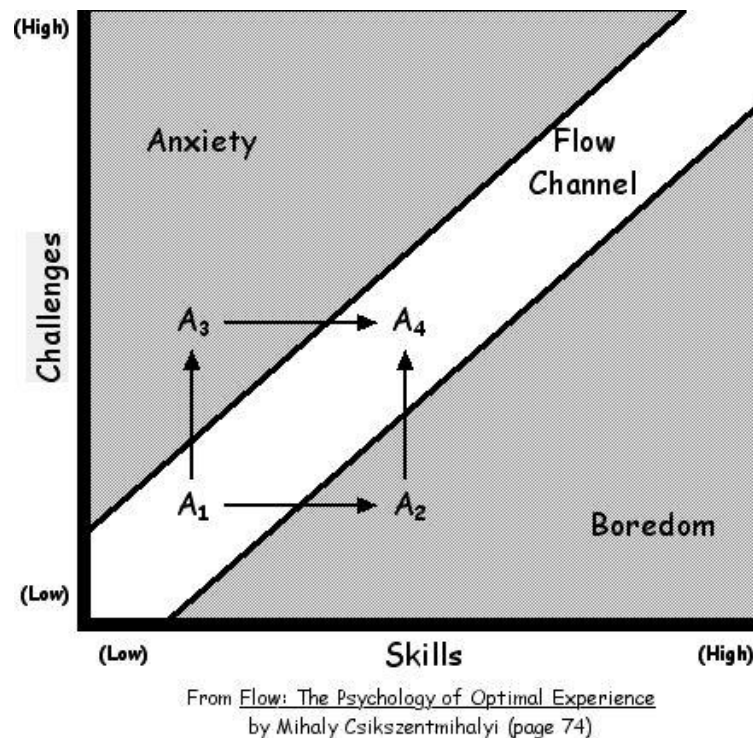
The voluntariness is another aspect of playing that has two sides to it. One of the characteristics that makes play different than most of everyday life, is that it is voluntary. This voluntary action is also called autotelic which comes from the two Greek words auto (self) and telos (goal) and means “*an action that is self-contained and done without expectations of some future benefit but simply because the action itself is the reward*” [1]. Mihaly Csikszentmihalyi describes autotelic people as people who are internally driven and fueled by curiosity. They stand in contrast to exotelic people who are driven by factors such as money, power and fame [9, p.210]. It is also essential for autotelic play that the person must voluntarily engage in it. This provides an interesting contrast for discussion, as some forms of play can be considered both autotelic and exotelic. If we voluntarily play a game of poker with our friends, can we not be motivated by having fun with our friends but also by the possible reward of winning money? Are the games in gamification voluntary when it is often companies who impose them on us through their websites? This gives opportunity to write one of the most important quotes on voluntary play, that I have found in my studies.

*“It is an invariable principle of all play, that whoever plays, plays freely.*

*Whoever **must** play, cannot play”* James P. Carse (Finite and Infinite Games, 1986).

Csikszentmihalyi seems to think that most of what we do involves a combination of the autotelic and exotelic motivation but he urges people to find *flow* [9, p. 209-213].

Flow is the state we are in when our skills are consistent with the challenges we are met with resulting in an enjoyable experience for the individual. When our skills are put to the limit in an autotelic action we achieve flow and satisfaction [ibid]. The relation between skill and challenge to achieve flow is illustrated by Csikszentmihalyi in this model:



As we can see, if we are not skilled enough for challenges, we are in a state of anxiety and if we are too skilled for the challenge, we are in a state of boredom. Flow is only achieved when there is a relatively even correlation between the two. This relation will play a central role when we look at the criticism of gamification, where we will look further at questions such as: Is gamification supposed to be challenging?

### Games vs. Play – the terminology of gamification

In game studies, the difference between games and play is coupled with the concepts of *paidia* and *ludus*. *Paidia* refers to “playing” in a free and expressive way full of improvisation usually seen in open-world games whereas *ludus* refers to “gaming” in a fixed and structured setting with rules, competitiveness and a goal in mind [10, p. 3]. This discussion of connotation is a central element in understanding some of the criticism of gamification, its limitations, as well as the definition of the phenomenon. According to Zimmerman, play can be conceived of as the broader looser category containing but different from games [25]. Are we then to believe that the “gaming” in gamification limits the phenomenon to rule-bound systems with specific goals and outcomes?

Brian Sutton-Smith, one of the leading modern scholars of play, uses different terminology in his work “The Ambiguity of Play”. He provides a long list of various play phenomena such as mind or subjective play (daydreams, role-playing games), solitary play (hobbies, collections),

playful behaviors (playing tricks, playing around), informal social play (joking, parties), vicarious audience play (television, rock music), performance plays (playing music, being a play actor), celebrations and festivals (birthdays, carnivals), contests and sports (athletics, gambling), and risky play (caving, hang gliding). To help better understand these different forms of games and play, Sutton-Smith has organized seven different ways of speaking of play [22, p. 44].

Type of play	Description
Play as Fate	Theories of luck, chance and gods controlling human life
Play as Power	Play in relation to warfare, athletics and contests
Play as Identity	Play as a way of confirming the communal identity in celebrations
Play as Frivolity	Play as something subversive and carnivalesque
Play as Progress	Play connected with growth and evolution of children and animals
Play as the Imaginary	Play as art or having its own reality
Play as the self	Play as relaxation and fun where individuals aim for balance of skills & challenges

[ibid.]

The reason for writing Sutton-Smith's different types of play is to point out the multiplicity of playing and show that the ways we think of play

in contemporary culture might only be a small part of a much bigger phenomenon.

## Defining games

Having a clear definition of games would be helpful, but there is an inherent challenge in searching for an all-inclusive definition. The flexibility, ambiguity and diversity of the phenomenon can very easily be over-simplified. Nevertheless, discussing a definition can be used as a hermeneutic tool: learning to constantly define and criticize our concepts so that they can evolve with our further understanding. With that said, I find it hard to believe that there will be a single definition of games that is irrefutable from every angle.

According to Roger Caillois, game playing is:

*“an activity which is essentially: Free (voluntary), separate [in time and space], uncertain, unproductive, governed by rules, make-believe.”* [5, p. 10-11]

The reason I have included it is that it preludes to the understanding of game playing as something that covers an extensive range of human activity. The definition can include the childhood games on the playground as well as card games and video games that are rule-bound but make-believe. However, I find the definition to be very broad and essentially just a list of qualities that activities can have. A narrower



definition would be useful for a more focused analysis and for further criticism.

Page | 17 Another definition worth mentioning is Greg Costikyan's

*"an interactive structure of endogenous meaning that requires players to struggle towards a goal"* [8, p. 16]

If we break down this definition, Costikyan wants us to understand "interactive" as the difference between a game and a puzzle. A puzzle is static, has a recipe to success and does not change state in response to player actions. A game is interactive because the outcome of the game will differ depending on player decisions. If it is not interactive, it is a puzzle, not a game [8, p. 10-11]. "Structure" is much like the part of Caillois' definition of "governed by rules". The game's rules create a structure within which people play. The structure is a complex, interacting system that does not rule the outcome but guides player behavior through the one final goal [8, p. 17-21].

By endogenous, Costikyan means that a game's structure creates its own meanings. The meaning grows from the structure and is caused by it. Monopoly money has no meaning in the real world but has meaning endogenous to the game of Monopoly [8, p. 21-24]. Players must struggle, just as in Csikszentmihalyi's model where our skills must be challenged to achieve flow. Struggle must not be confused to only mean competition (having a winner and a loser), because struggle can

also be used for cooperative games. Competition is just one way to make the player struggle, while including puzzles is another. In many video games, the difficulty can be adjusted so that each player is struggling enough to achieve flow [8, p. 14-17]. Finally, the struggle is towards a goal – that carrot at the end of the stick. Most games have an explicit win-state or victory conditions that guides our decisions and struggle and gives us an incentive to succeed such as killing the other player's king in a game of chess. However, some games, such as many role-playing games, are not about win or lose, but about character progression or building an exciting story. These are the goals that we make ourselves, again adjusting the difficulty level that we meet [8, p. 11-14].

I have not tried to combine many definitions of a game to one sweeping generalization, but other theorists have tried. In the book "Half-Real: Video Games between Real Rules and Fictional Worlds" by Jesper Juul, the author has compiled several definitions into this "classic game model".

*"A game is 1) a rule based formal system; 2) with variable and quantifiable outcomes; 3) where different outcomes are assigned different values; 4) where the player exerts effort in order to influence the outcome; 5) the player feels emotionally attached to the outcome; 6) and the consequences of the activity are optional and negotiable."*

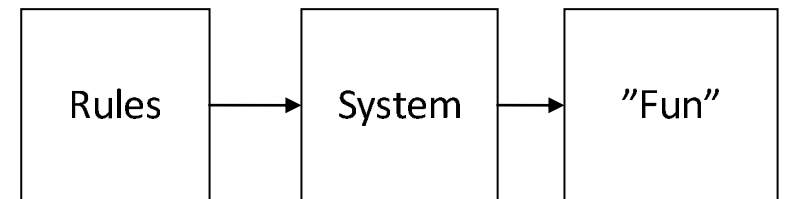
[15, p. 6-7]

With the definition, Juul combines several points that we have seen in definitions previously. The rule-based formal system was also present in the other two definitions, represented as 'structure' and 'governed by rules'. The outcomes Juul speak of, was mentioned by Costikyan as goals while Juul's 'effort' could be interpreted as Costikyan's 'struggle'. Where Juul's definition adds to the other two is perhaps in his criteria of players being emotionally attached to the outcome, where we previously have seen players as just goal-oriented. The real value of Juul's definition lies in the possibility to talk about the things that games have in common and address the boundaries between games and what is not games. If Juul's six points are criteria for what a game is, we will have several 'borderline cases' that only posses some of the characteristics. Some of the most popular and important contemporary form of games such as role-playing games would appear to be a borderline case, just as Costikyan pointed out. Juul argues that modern games have evolved outside the classic game model and that definitions of such a 'moving target' is a tool for comparison, not criteria [15, p. 44-54]. In conclusion, the view of definitions as being a tool for comparison is what this 'definition chapter' will be used to in the rest of the thesis.

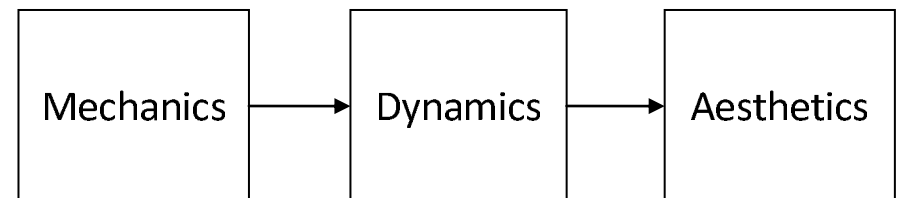
## Game Aesthetics

We have looked at some functional definitions of games that gave us some criteria for what a compelling game can include, but we have yet

to discuss what players find compelling about games. Marc LeBlanc et al. proposed a framework they call MDA, standing for Mechanics, Dynamics and Aesthetics, as a tool to understanding games [20, p. 2]. In many ways, MDA is a simplified form of some of the definitions above. The framework formalizes the consumption of games by breaking them into these categories:



And their design counterparts:



So MDA is basically a lens to view game design through. When players think rules, game designers think mechanics. When players think

system, game designers think dynamics. When players think “fun”, game designers think aesthetics [ibid]. As we have already touched upon the topics of rules (in several of the definitions) and system (or structure as Costikyan calls it in his definition), this chapter will focus on aesthetics to investigate what makes a game fun. LeBlanc’s *taxonomy of eight game pleasures* is as follows:

- 1) **Sensation.** For most modern video games this would be beautifully designed graphics, a soundtrack and some talented voice actor. Pretty games gives us sensory pleasure but muscle pleasure is important as well, such as in physical sports. These can even be combined in games such as Dance Dance Revolution. According to LeBlanc, sensory pleasure is a supporting factor and not the essence of design.
- 2) **Fantasy.** LeBlanc describes this as “something analogous to the fictional concept of suspension of disbelief”. Much like in a novel, it is also fun to lose yourself in the fantasy of the game. This can be done by writing the game in language appropriate to the setting or using a graphic style that fits the fantasy that the player is immersed in.
- 3) **Narrative.** This does not have to mean that the game should be attached to a story, but that games should support a sense of drama. A graphic adventure without a story is naturally boring, but we do not need a narrative to enjoy a game of

chess. The drama is achieved by building rising tension that leads to a climax and a sense of accomplishments.

- 4) **Challenge.** I have already written a lot about struggle, but it is truly considered the heart of any game. It is a factor that must be present in any game – the relationship between challenge and skill to achieve flow. Some of the eight game pleasures can be left out and still make a good game, but challenge cannot.
- 5) **Fellowship.** Shared intense experiences breed a sense of fellowship or community that can be an important pleasure in a game. The fellowship can sometimes be said to evolve around the game. People may be drawn in by the game but stay for the community. This is true for modern video games but also sports, board games, role-playing etc.
- 6) **Discovery** is also part of the appeal for some games. This can be literal such as in role-playing games with large fantasy worlds but also figuratively in card games where you try to discover what someone else’s hand might look like.
- 7) **Expression** is almost like discovery, only inbound. With expression, LeBlanc means self expression i.e. a way to represent ourselves in the context of the game. Some means of self expression in video games can be customizable character names and looks, while in sports it can be wearing unique jerseys. In role-playing it can be more in depth, such as

creating a back-story for our character and in social games it can be through social activity with others.

- 8) **Masochism/Submission.** LeBlanc calls it either masochism or submission throughout his works and what he means is that there is pleasure in submitting yourself to the structure/struggle of the game. The submission is what we agree to when we start playing the game – submission to care about monopoly money or beating a fictional giant.

[8, p. 26-30]

Understanding what pleasures people find in games is essential to creating a good one. These eight pleasures are not a check list where all must be met for a game to be good. The taxonomy is factors that game designers can take into consideration when creating a game, and much like our definitions; a tool for comparison. LeBlanc gives us an example of such a comparison, in listing four games and the pleasures that makes each fun:

**Charades (Gæt og Grimasser):** Fellowship, Expression, Challenge.

**Quake (First-Person Shooter):** Challenge, Sensation, Competition, Fantasy.

**The Sims (Strategic Life Simulation Game):** Discovery, Fantasy, Expression, Narrative.

**Final Fantasy (Role-Playing Game):** Fantasy, Narrative, Expression, Discovery, Challenge, Submission.

Each game pursues multiple parts of the eight pleasures in varying degrees and some might have an element as a main part of the gameplay. The taxonomy sheds light on how and why different games appeal to different players at different times [20, p. 2-3].

## Lessons in Game Design

*"Of the innumerable effects, or impressions, of which the heart, the intellect, or the soul is susceptible, what one shall I, on the present occasion, select?" – Edgar Allen Poe, The Philosophy of Composition*

According to Jesse Schell, game design is the act of deciding what a game should be. That simple definition covers a broad array of action, as the decision of what a game should be, is made with a multitude of smaller decisions. Schell splits up the process of game design into 32 thoughts which makes for a very intricate web of game design relationships. In this chapter, I will highlight the ones that are most relevant for the comparison to gamification.

## The Game Designer Creates an Experience

The game is not the experience; the game *enables* the experience. Much like a book or a movie, the game is the medium with which the

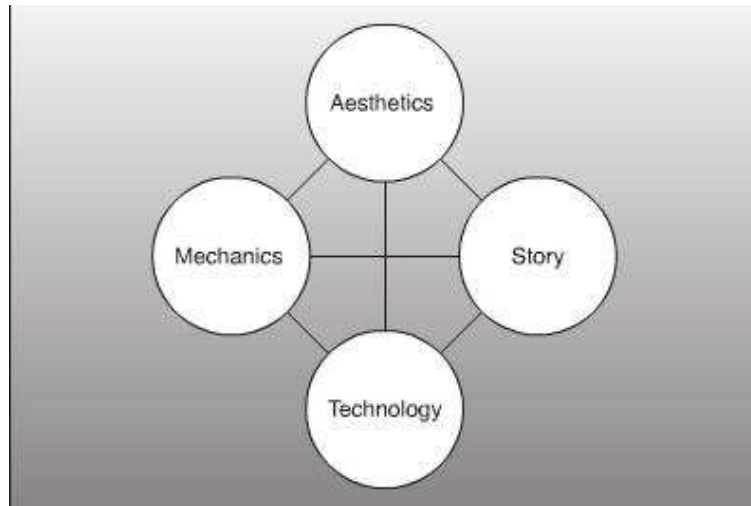
experience is given, but a book creates a linear and slightly more predictable experience than a game with variables. However, the game can offer feelings that a book cannot, such as feelings of choice, freedom, responsibility, accomplishment, friendship etc. Schell goes to great lengths explaining how designing games is about introspection and figuring out how to capture the essence of the experience one wishes to convey. The importance of the chapter is that game design starts with designing an experience, not a game [26, p. 9-22].

### The Experience Rises Out of a Game

Schell takes his turn trying to define what a game is and touches upon elements of surprise and fun. He believes surprise is crucial for entertainment as we are hardwired to enjoy them, and that we must consider what makes the game fun. The idea of fun is something I will describe much further in another chapter, as it has been mostly left out of previous definitions. The rest of Schell's chapter about game is filled to the brim with more definitions similar to my previous chapter. Each of the definitions are dissected to find elements that a proper game has, ending with Schell's own view: *"A game is a problem-solving activity, approached with a playful attitude"*. He ends the chapter with the same view that I ended my definition-chapter with: the point of defining the term is to gain new insights because it is the insights that are important, not the definitions [26, p. 23-38].

### The Game Consists of Elements

According to Schell, the game consists of four basic elements; mechanics, story, aesthetics, and technology. **Mechanics** are the procedures and rules that describe the goal, how the players achieve it, and what happens when they try. It is the only one of the four basic elements that the linear media listed before (books, movies, etc.) lack. The mechanics are crucial and connected to the other three elements, in that the game must have technology that can support mechanics, aesthetics that emphasize them and a story that explains them. The **story** is the sequence of events that unfolds in the game, be it linear or branching. It is supported by mechanics that will let the story emerge, aesthetics that will reinforce the ideas, and technology that suits it. **Aesthetics** has the most direct relationship to the experience because it is how the game feels. The look and tone of the experience is enabled and amplified by the technology, the mechanics will make players feel immersed, and the story will make the aesthetics emerge at the right time and pace. Finally, the **technology** is the materials and interactions that enable the game to do certain things. It is the medium in which the aesthetics take place, where the mechanics occur and through which the story is told [26, p. 39-43]. None of the elements are more important than the others, and all are interconnected, as illustrated here:



### The Elements Support a Theme

The theme is what the game is about – the idea that ties the game together. All elements must support the theme if the game is to be as engaging as possible. A unifying theme focuses the game design towards a single goal, but the theme must also resonate with players. Schell distinguishes between themes that are experience-based, which is to say that they are centered on delivering a certain essential experience that should resonate with the fantasies and desires of the players, and truth-based themes that center on describing life's big and powerful emotions and personal truths such as "love is more important than life". Whether the theme is experience- or truth-based, the resonance is the important part that will elevate the theme to be the vehicle of the experience [26, p. 47-56].

### The Game is Made for a Player

Here, Schell talks about demography of a player base as well as differences in how males and females play. He describes LeBlanc's Taxonomy of Game Pleasures that I have addressed previously, but adds more pleasures that he believes are important. These include:

- **Anticipation** of an expected pleasure is a pleasure in itself
- **Delight in Another's Misfortune** is an important part of competitive gaming – feeling someone getting what they deserve
- **Gift Giving** is the pleasure of making someone else happy
- **Humor** is hard to describe and people find different things humorous – but we all know when we find something humorous
- **Possibility**. Having a multitude of choices to pick from, such as when we go shopping
- **Pride in an Accomplishment** is the pleased satisfaction that can persist long after the accomplishment was made
- **Purification** relates to the inner obsessive compulsive disorder in us all. It feels good to clear a level
- **Surprise** is a common pleasure in games, as described in *The Experience Rises out of a Game*

- **Thrill** is the pleasure of experiencing terror but feeling secure in one's safety
- **Triumph over Adversity** is the pleasure of accomplishing something against the odds
- **Wonder** is the overwhelming feeling of awe and amazement

Adding all these to LeBlanc's taxonomy makes a comprehensive, but still not exhausted list of game pleasures. They are a convenient rule of thumb but not a check-list for analyzing the quality of a game [26, p. 97-112].

### Some Elements are Game Mechanics

I have mentioned it in the definitions, and I have mentioned it in '*The Game Consists of Elements*', but this chapter is the definitive explanation of game mechanics. Game mechanics are the skeleton of the game, the core of what the game truly is. When you take away the other 3 elements (aesthetics, technology and story), mechanics is left to guide the interactions and relationships. Schell has made taxonomy of game mechanics consisting of six main categories: Space, Objects/Attributes/States, Actions, Rules, Skill, and Chance [26, p. 129-130].

**Space** is the abstract construction of where the game takes place. In tic-tac-toe, the game space is the 9 squares where you can put the

circle or X and as such it has a fixed state, in that it has clear boundaries for the possibilities of player action. On a pool table, however, the space is continuous because the balls can move freely, but still only within the boundaries of the table. In many modern video games, the space is limited to where the player can move, but modern mechanics can make the space feel open by having "spaces within spaces". Having a large open world can help people enjoy the game pleasure referred to as "possibility" and "discovery" [26, p. 130-135].

**Objects** are what fill the space, such as the X's and the O's of the tic-tac-toe. Everything that can be seen or manipulated falls into this category. Objects have **attributes** which are the categories of information about the object, such as the maximum speed of a car in a racing game. The attributes have **states** that refer to the current state of the attribute, such as current speed of the car. It is important to communicate some states to the player, to avoid confusion, while other states can be kept secret. In a game of tic-tac-toe, all game states are public, except the thoughts of the opponent. In poker, however, many states are secret, such as the opponents hand and the order of cards in the deck. Poker would not be a game without the secret states because the way to win is to predict the opponent's cards, i.e. the secret state. In terms of game pleasures, predicting the secret state could be "challenge" and "pride in an accomplishment" [26, p. 136-140].

When it comes to **actions**, Schell distinguishes between operative actions and resultant actions. The operative actions are the base-actions that the player takes, such as moving a piece, shooting the ball, or casting a spell. The resultant actions are the actions that are only meaningful in the larger picture of the game, i.e. strategically to achieve a goal and they often emerge naturally as the game is played. The ratio of operative actions to resultant actions are often considered a measure of how much emergent behavior the game features. That means the game looks elegant if a small number of operative actions can result in a large amount of resultant actions. Emergent behavior feels meaningful to the player and can be done in several ways:

- Adding more operative actions will also increase the number of resultant actions, though this can cluster up and confuse the player.
- Have operative actions work on more than one object
- Have goals that can be achieved in more than one way, which will make the player strategize and exploit resultant actions
- Have side effects that change constraints

Actions seem to be a powerful way to make the player experience game pleasures such as possibility (through strategizing) without having a large open world **space** [26, p. 140-144].

**Rules** define and make possible all the other mechanics, and they add goals to a game. Schell distinguishes between 8 kinds of rules:

- **Operational rules** are the rules needed to understand the games. The most basic of rules.
- **Foundational rules** are the formal structure of the game. They are an abstract mathematical representation of the game state.
- **Behavioral rules** are the rules that are implicit, often referred to as “good sportsmanship”.
- **Written rules** are the rules that come with the game, written by the designer.
- **Laws** are the rules implemented when the game reaches a competitive setting where the stakes are high enough to warrant a change of the written rules to ensure good sportsmanship
- **Official rules** are created when the game is played seriously enough to warrant a merge of the written rules and the laws. Over time, the official rules become written rules.
- **Advisory rules** are mostly tips to help strategizing.
- **House rules** are the rules we make ourselves to make the game more fun in a casual setting.



The purpose of all these kinds of rules are ultimately to portray the object of the game – how to achieve the end goal. There can be sub-goals and a larger goal, but the important part is that the player understands the goal clearly. Good game goals have three important qualities to them:

- They are **concrete** so players understand them clearly
- They are **achievable** so players do not find them impossible and give up
- They are **rewarding**, so we feel a sense of achievement. Achieving the goal can be a reward in itself if it is challenging enough, but it is often a good incentive to let a player know there is a reward.

Having both short-term and long-term goals in a game will make players feel they know what to do immediately while still working towards an ultimate goal of greater importance. Rewards can be picked with inspiration from LeBlanc's taxonomy of game pleasures and the addendum to these [26, p. 144-150].

We have touched upon the topic of **skills** when describing the importance of flow. It is the mechanic that shifts the focus from the game to the player, and since games are different, so are the skills needed to play them. Physical skills, mental skills, and social skills can all create the wanted experience and be practiced in the game. Schell

also distinguishes between real skill and virtual skill, where real skills are the ones mentioned before, and virtual skills are the ones players pretend to have. Virtual skills can improve even though the players skill does not, giving the player a sense of power. The key to a good game is finding the right mix of virtual and real skill [26, p. 150-152].

The final game mechanics that Schell focuses on is **chance**. Chance is the uncertainty element that helps the player experience the game pleasure "surprise". I will not go into the probability calculations that can be used to design surprises in games, but instead talk about chance's relation with skill. Estimating chance is a skill and estimating an opponent's skill is a skill, but predicting or trying to control chance is an imagined skill. This gives chance a tricky richness to it that helps the game gain complexity and depth. Chance is tightly connected to several game pleasures such as anticipation, triumph over adversity, surprise, challenge etc [26, p. 153-169].

These are the six basic game mechanics that Schell thinks provide insights into creating great games. It will be interesting to see how they relate to the games of gamification.

### Game Mechanics Must be in Balance

Closely connected to the importance of the six basic game mechanics mentioned above, is the principle of balancing the mechanics.

Balancing a game is about adjusting the experience until it is fun, and

there is a multitude of ways to do it. Without balance of game mechanics, the game becomes monotonous, confusing, and frustrating [26, p. 172]. Some of the common types of game balance are:

**Fairness:** As has been mentioned before, challenge is good, but a challenge that seems impossible is off-putting. One way to make the game fair is by making it symmetrical, meaning the opponent does not have any advantages. This is best for games where the skill level of the opponents is equal. Creating an asymmetrical game is also a possibility, and can still provide a good game experience. Asymmetrical games can be a way to level the playing field for players with different skill level, a way of simulating a real-world situation that was imbalanced, or simply to create interesting situations where advanced strategies are needed [26, p. 172-17].

**Challenge vs. Success** is another way to balance mechanics. We know that according to Csikszentmihalyi's model of "flow", the balance between our skill and the challenge we are met with is very important for the longevity of the game. Schell's techniques for striking a proper balance in flow are: increasing difficulty with each success, letting players get through easy parts faster if they are skilled, and letting players choose the difficulty level of the game [26, p. 177-179].

A good game gives players **Meaningful Choices** but balancing the meaningful choices can be a challenge. Too many choices that are not

meaningful or offering uninteresting choices, will feel like no choice at all. If one choice appears to be clearly better than the rest (imbalance), a dominant strategy evolves. When a dominant strategy is found, the game loses its attraction because it feels like a puzzle that is solved. The number of meaningful choices in a game should be roughly equivalent to the number of things the player desires. Too many and the player is overwhelmed, too few and the player is frustrated, get it right and the player has a feeling of freedom and fulfillment. One of the most exciting meaningful choices that a player can make is the choice between playing it safe for a small reward and taking a risk for the possibility of a big reward [26, p. 179-183].

Another balancing act in games is the **rewards**. I have mentioned how important rewards are, but balancing how often and with what the game rewards is equally important. Rewards are meant to fulfill the player's desire and judge them favorably, and they come in many ways and forms, such as praise, points, powers, resources or sense of completion. Players have a tendency to get acclimated to rewards, so it is important to either increase rewards as the game progresses or make the rewarding variable instead of fixed (pleasure of surprise)[26, p. 188-191].

The other side of the coin is **punishment** which, when used properly, can enhance the experience for the player. Having the threat of one's rewards being taken away will increase the value of the rewards, and it

increases the overall challenge of the game. As mentioned before, taking risks is exciting for the player, but only if there is a punishment at the other end of the spectrum. Common punishments are shaming, loss of points, termination of play, setback, and removal of powers. Punishment must never feel random or unstoppable because it will make the player feel a loss of control. When used properly, however, it can provide game pleasures such as thrill, surprise and submission [26, p. 192-194].

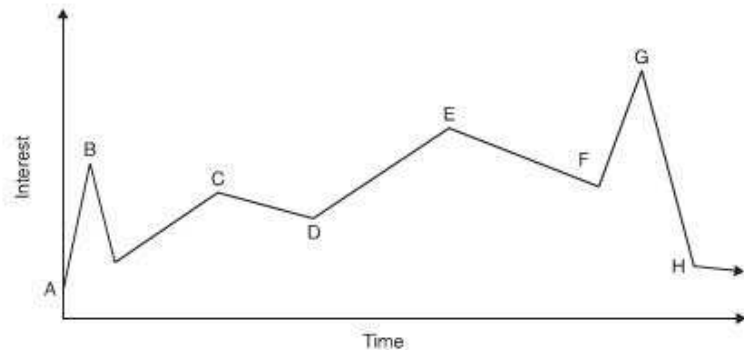
### Players Play Games Through an Interface

Interface can generally mean a controller, a display device, game information on a screen, and many other things. Put simply, a game interface is everything in between the player and the world, though Schell distinguishes between physical interface and virtual interface. The physical interface is the physical input such as a controller and output such as the picture on a screen, while the virtual interface is the conceptual layer that usually consists of a menu with player options or game information on the screen. The ideal interface is not confusing and can become invisible to the player, for greater player immersion. An important job for an interface is to give the player feedback that will make the player understand the game and enjoy it more. Experiences without feedback are frustrating and confusing, as is action without second-order motion. Second-order motion is the motion that is in the player's control, and with it the player is

rewarded with power. The feedback can be judgment, reward, instruction, encouragement, or challenge and it can trigger game pleasures such as purification, pride in an accomplishment, etc. [26, p. 222-234]. In conclusion, a game is made much more rewarding with a proper interface, but an interface cannot be a game in itself. It is only a mediator between the player and the actual gameplay.

### Experiences Can Be Judged by Their Interest Curves

*"The quality of an entertainment experience can be measured by the extent to which its unfolding sequence of events is able to hold a guest's interest"* writes Jesse Schell. This takes us to the topic of interest curves in games. The first part of an interest curve is the expectations of the player which is comprised mostly of the packaging, recommendations from friends, advertisements etc. Great expectations are preferred, but as with many experiences in life, too great expectations can lead to disappointment. When the experience starts, there comes a "hook" point, where the player gets excited about the game and wants to continue. After the hook, the interest of the player must continually rise with intermittent peaks and low points of anticipation. The interest curve ends with a climax such as a victory or a conclusion to a story and the player ends the experience being satisfied. An ideal interest curve resembles this figure:



If a game does not take the interest curve into account, it might make the player disappointed in the beginning, waiting too long for something interesting to happen, and possibly leave the experience before its conclusion. Proper interest curves are seen in everything from roller coasters to Hollywood movies [26, p. 247-252].

It is easy to say that a game must have peaks of interest, but what do the peaks of interest consist of? Some things simply interest us more than others, such as things that are risky, fancy or unusual. Our interest also has to do with how the peaks are presented. If they are aesthetically pleasing they are inherently more interesting. Finally, experiences are more interesting if we can put ourselves into the experience or relate to a character through empathy and imagination [26, p. 253-257].

### Some Games are Played with Other Players

Before computer games, almost all games were designed to be played with others. Single-player computer games can adapt almost all game design elements and game pleasures, but multi-player experiences cater to the inherent social person in all of us. Many of the game pleasures are enhanced with the presence of another player. The main reasons we play with other people are:

- 1) For **competition**. Many game pleasures are much easier to bring forth in a game, if there is an opponent. A worthy opponent of equal skill will make the game balanced and challenging, give us an interesting problem to solve, help us evaluate our skills compared to others, test our skill and make us take meaningful choices.
- 2) For **collaboration**. If we do not play against someone, we can sometimes play with them. We find it enjoyable to solve tasks in groups and be part of a successful team, especially if we combine it with competition in a team vs. team game.
- 3) For **meeting up** and socializing with our friends.
- 4) For **exploring our friends** and figuring out how they act in challenging situations instead of just regular conversations.
- 5) For **exploring ourselves** in the sense of how we act with others, how we see ourselves and how we relate to other people.

As we can see, there are many reasons to play multiplayer games. One we will focus more on is the formation of communities around games [26, p. 354-356].

### Other Players Sometimes Form Communities

Communities often arise around games, and whether the community consists of fans of a football club, players of a massive multiplayer game or amateur level designers, they are a powerful source for extending the life of a game. The community makes us stay loyal to the game because we like the sense of belonging in a group. A community usually has four important elements: membership (so people can see that you belong), influence (power to the people), fulfillment of needs (sense of belonging), and shared emotional connection (you care about the same things as the rest of the community). From a game designer's perspective, it is important that a community forms around the game because:

- It will give players a sense of community, filling a basic human need for belonging and the important game pleasure "fellowship"
  - Players who are a part of a community are more likely to share and recommend the game to others
  - A community makes the player want to play for longer, even if the game is of dubious quality
- [26, p. 358-359]

Jesse Schell has some tips to making a strong community. The list can also be used as a checklist to assess the quality of game community.

- 1) **Fostering friendship.** One of the tools to foster friendships in a community is the ability, means or interface to talk to other players. Players must also find something to talk about which could be strategy, game updates, future collaboration or competitions etc. Finally, there has to be a place to meet other players, such as a forum, a town hall in a game, a club house or similar.
- 2) **Put conflict at the heart.** Conflict against other players or against the game can create strong bonds with teammates. If there is a common enemy, a community can be created around defeating it. However, conflict alone cannot create community. The conflict must be one where player communication is needed for success. This can also result in the game pleasure we called "gift giving".
- 3) **Let players express themselves.** We have already learned that self-expression is important in games (it is the 7<sup>th</sup> of LeBlanc's taxonomy of game pleasures) but it is also important for community creation. It makes players feel proud, important, and connected.
- 4) **Obligation to others is powerful.** If the player has promised to play with the community or in other ways feel as if he owes

the community something, it builds a very strong incentive to return to the game. A game with an element of player-to-player commitment can build a strong community.

- 5) **Community events.** Regular events for the community will give players something to look forward to, create a shared experience for them that will make them feel more connected, sets a date for the return to the game, and guarantees connection with others.

[26, p. 359-367]

### The Overlooked Element - Fun

All the definitions of game as well as many of the elements of game design skip the word “fun” in their descriptions. Perhaps they feel it is included when talking about “game pleasures”, for what is fun if not a pleasure. Some would say it is included in the description of flow where we find enjoyment in being challenged at an appropriate level. Raph Koster is of the opinion that fun arises out of mastery and comprehension and that “learning is the drug” [16, p. 40]. The difference between flow and fun is that flow relates to exercising mastery while fun relates to learning in a context where there is no pressure [16, p. 98].

One may argue that every game has some sort of learning element in it, ranging from some simple rules to greater strategy. The pitfalls of

this are if the game is too easy to learn, too hard to learn, not interesting to learn, too repetitive or if the player feel like they beat it. All of these will lead to a player being bored, so Koster argues that a game must “teach everything it has to offer before the player stops playing” [16, p. 44-46]. Games can prolong this feeling of being taught, by having multiple elements to learn such as advanced strategy, teamwork skills, immersion etc.

### Theoretical scope and remarks on the choice of sources

I have chosen this specific theoretical framework because I believe it gives me the perspective I need to look at the issue of my problem statement. I seek to investigate the true nature of gamification, a phenomenon that is partially rooted in games, and as such it seems relevant to have comprehensive knowledge of the nature of games. The theories of games also give me a way to talk and think about the problem in a comprehensible matter. Since gamification is such a new phenomenon, it is easier understood if put into relation with well established theories. Having written as inclusive a theoretical framework as I have will help me to search for and find the most relevant data for the analysis. While writing the rest of the thesis, I have continually gone back and forth to the theories of games to revise it so that it fits my needs, and trying to still keep it all-inclusive.

A central point in the theoretical section of this thesis is the “ancestry” of game design theories. As might be apparent from the section, the theories of why we play and what constitutes a good game are meant to be universal. They are meant to apply as much to board games as digital games, as much to chess as to World of Warcraft which is oddly beneficial to my research. Since the thoughts and theories of analog games are successfully transferred to the next step of gaming (digital games), perhaps they can be transferred to the next step again. I argue here that gamification is if not the next step then at least a branch of the evolution of digital games. In other words, I argue that game theory stands the test of time and as such can be applied to new research such as this thesis.

The theories described in this thesis are the product of extensive research on the topic of games and game design. One of the major challenges with finding useful literature was the dissociation of non-peer reviewed books, often written by professional game designers and not academics. While these books proved helpful in finding examples of well constructed games, their counterparts were what gave me the deeper understanding of games. It quickly became apparent that the study of games relates to the psychology of engagement, and I used Csikszentmihalyi and his theories of flow as an early description of what is engaging in games. For the definitions of games, I found that every theorist had his own description so I used a

broad range of academics and game-design experts to show that the understanding of games is in fact broad. When going deeper into the topic of game design elements and game pleasures, I used Mäyrä’s book “An Introduction to Game Studies” who referred to many leading experts in the field. This led me to LeBlanc’s game pleasures and ultimately Jesse Schell from Carnegie Mellon University who wrote the book “The Art of Game Design”. I found that book very extensive on the topic, so I used many of Schell’s theories of game design.

Apart from the varying definition of games and gaming, one of the major issues and debates of the topic is why we play. This is where some of the theories overlap each other, even though they do not directly disagree with each other. Mäyrä describes it as different forms of play (fate, power, identity, etc.), LeBlanc says it is to experience one or more of the 8 games pleasures, Schell adds even more game pleasures and finally, Koster thinks the ultimate goal is to have fun by learning. Through my thorough inspection of literature on the topic of games and game design, the theories I have used are the ones that stood out to me as the most respected and universal in the field. Fortunately, the different theories of why we play do not negate each other, and will therefore all be used to explain the connection between games and gamification.

## Gamification

The first part of this section on gamification will be a conceptualization of gamification. I will give an overview of the various definitions of gamification for the purpose of outlining the different and differing priorities and understandings of the concept. Outlining and analyzing the definitions will also give a basis for which we can compare the theories of games and game design. After the definitions, I will give an overview of the two pieces of gamification literature that I have found to be most revered: *Reality is Broken* by Jane McGonigal and *Gamification by Design* by Gabe Zichermann. The reason for outlining the thoughts in these books is that they describe the basis of gamification and as such will form the basis for my analysis and comparison of games vs. gamification.

### The roots of gamification

According to Deterding et al. gamification has its roots in Information Interfaces and Presentation or Human-Computer Interaction. With the advance of computer games in the 1980's, experts suggested a relation between fun with computers and ease of use, later dubbed "funology". First, the movement was heavily inspired by computer game interfaces, but later the focus was on designing experiences for playfulness. Later came terms such as "serious gaming" which was used to describe educational utilization of games, and "pervasive games" that are games in new contexts such as location-based games

and alternate reality games. All in all, these new movements were a clear tendency that society was moving towards a "ludification of culture", meaning a culture where games are everywhere [10, p. 2].

### Defining gamification

As described, gamification has its roots in interaction design and in games, which is also clear to see in many of the various definitions. As opposed to the "defining games" chapter where I went over the definitions one by one, here I will list the ones I have found relevant and then talk about them in bulk.

*"Gamification is the use of game design elements in non-game contexts" [10]*

*"Gamification is the process of game-thinking and game mechanics to engage users and solve problems" [29]*

*"[Gamification] ... refers to incorporating game elements and mechanics into non-gaming websites and software" [37]*

And according to some of the companies who have specialized in making gamification platforms:

*"Gamification increases engagement by leveraging feedback mechanisms traditionally found in games" [38]*



*“By implementing game mechanics across websites, social networks and mobile applications, businesses can engage their users in a more meaningful way and reap tangible business benefits, such as increased customer loyalty and increased time spent on site” [39]*

*“Our platform uses gamification concepts like competition, social collaboration, achievement and goal-setting to engage site visitors and motivate them to register and return” [40]*

Mostly, the gamification definitions can be split up into two parts. The first part of the definitions is what gamification is, and the second part is what it does. Zichermann believes gamification *is* the process of game thinking and game mechanics, while Small Business Lab thinks it is incorporating game elements and mechanics and Bigdoor believes it is competition, social collaboration, achievement and goal setting. Whether they call it game thinking, mechanics or elements, it seems like the words are somewhat interchangeable and are generally meant as game elements. In terms of what gamification *does*, there also seems to be a wide agreement. Zichermann says gamification is a tool to engage users, which iActionable, Bunchball and Bigdoor all seem to agree with. To sum up, the definitions seem to be similar in that gamification is game elements used for user engagement, but a few of them elaborate on the context. Deterding et al believes it is used in non-game contexts, Small Business Lab narrows it down to non-gaming

websites and software and Bunchball goes even further and describes the context as websites, social networks and mobile applications.

What we can establish from these definitions is that they all agree on game elements being the driving force of gamification. In the next section, I will go over Gabe Zichermann and Jane McGonigal’s description of gamification.

## Using gamification

The foundation of gamification is built on the statement that *“everything has the potential to be fun”* [29, p. 2]. Zichermann defends this statement with examples of recent popular video games where the job is to manage a restaurant or change a diaper; if that can be fun, anything can be fun. He goes on to describe the early methods of loyalty programs such as “buy 10 and get 1 free” and earning miles with airlines. The movement of loyalty programs is towards status as a reward, such as a gold membership, instead of “stuff”, such as getting a free product [29, p. 5-9]. Zichermann then concludes that historically, rewards are great for building loyalty, and status is the easiest, cheapest and most popular rewarding incentive. He lists the four kinds of rewards under the acronym **SAPS** going from most powerful to least powerful: Status, Access, Power, and Stuff. Status are the modern use of badges, levels and leaderboards (such as in video games). The argument for stuff being the least favorable reward is that once the item has been given, the incentive to engage is finished, and that stuff

can easily be given an exact monetary value by the receiver. Status, access and power, however, cannot be accurately priced so people tend to overvalue them [29, p. 10-12].

Player motivation is the topic of the next section, where Zichermann describes an operant conditioning system as addictive and something that should be included in a gamification experience. Operant conditioning is the model used in slot machines where rewards are at a variable ratio and interval [29, p. 18-19]. Another big motivation for playing is socializing. According to Zichermann, as much as 75 % of people who play are doing it for the social aspect, while the other 25 % consists of people who play for the sake of exploring the game, achieving things such as victory, or beating other players [29, p. 22-23]. Returning to the subject of rewards, Zichermann discusses the topic of intrinsic motivation which is rewards that derive from our self versus extrinsic motivation which derive from the world around us. An example of intrinsic motivation could be the desire to lose weight or be great at playing piano, while extrinsic motivation could be the desire to win a marathon or make money [29, p. 26-29]. According to Zichermann's own words "*intrinsic motivation is over*" [31]. He argues that extrinsic motivation is more powerful, giving an example of a child who starts to play piano for fun, and is then entered into competitions. Losing the competitions which is taking away the extrinsic motivation will make the child quit playing the piano and lose the intrinsic

motivation he had to begin with [31]. The solution is a continuous extrinsic reward loop [29, p. 27]. The final part of the player motivation aspect has to do with stages of mastery. In the theories of games and game design section, we have covered the importance of catering to different difficulty levels to ensure a flow between difficulty and skill level and Zichermann also covers this in his rules for gamified experiences. However, Zichermann also argues that players should not feel obligated to progress in mastery level if they are comfortable where they are [29, p. 31].

The next section is about Gabe Zichermann's view on game mechanics and game design for gamification. He describes his view on game design as "*... narrow, but it is highly optimized for gamification*" [29, p. 35] and focuses on seven primary elements:

**Points** – A point system can serve many purposes ranging from keeping score in a competition or points that can be redeemed, and Zichermann believes they are essential in gamification. He mentions different usage of points such as experience points, skill points, karma points, reputation points and a point system to set up a virtual economy [29, p. 36-42].

**Levels** – With levels, Zichermann means game progression levels – something I described previously when I wrote about the difficulty of

games. These are important in gamification so the players know how far they have come and the complexity they can expect [29, p. 45-50].

**Leaderboards** – Leaderboards are meant for the player to compare himself to others in order to spark competition. They are a powerful tool for motivation, but because of Zichermann's view that 75 % of people play for socializing, he believes they should be social [29, p. 50-53].

**Badges** – Badges is another tool to show how far a player has progressed in the gamified experience. Zichermann argues that some players might be fed up with receiving badges for everything they do, but that giving unexpected badges can be a pleasant surprise for a player [29, p. 55-56].

**Onboarding** – Onboarding describes the element in a game that introduces new players without overwhelming them. This is done by offering the player something of value from the start and before asking for more commitment. The game should also be sparse in information in the beginning and offer action at which a player cannot fail while simultaneously rewarding the player for his or her actions. Later, more complexity can be added to the system to train the player [29, p. 59-62].

**Challenges and Quests** – This element is what gives the player purpose and direction after being "onboarded". The game needs to keep giving

the player challenges and quests to keep the game interesting.

Zichermann recommends cooperative quests as they will give a more powerful feeling of reward once completed [29, p. 64-65].

**Social Engagement Loops** – This is the element that is meant to bring the player back to the game. An example could be: If the player's progress is visible it can create a motivating emotion that the player is reminded of with a social call to action which leads to player re-engagement [29, p. 67-68].

Zichermann also mentions customization as way to commit a player – a game design element I went over in the theoretical section of this project. Together, these elements are the building blocks that he considers essential for a gamified experience [29, p. 77].

## Reality is Broken

Jane McGonigal does not directly mention the term gamification in her book, and yet it is one of the most important books on the subject. The book is split into three parts called Why Games Make Us Happy, Reinventing Reality, and How Very Big Games Can Change the World where each part lays the fundamental framework for the next. The reason it is considered essential for understanding gamification, is because McGonigal's book outlines how gamifying experiences can change our behavior. That fact is rooted in her definition of a game which is *"Playing a game is the voluntary attempt to overcome*

*unnecessary obstacles*" [21, p. 22]. She believes the voluntariness of overcoming unnecessary obstacles can be transferred to real life if only the process feels like a game.

McGonigal's reflects on her background as a computer game developer and she uses the lessons she has learned when developing games to dissect what she calls "fixes to reality". These describe what she thinks are flaws in reality that can be fixed by adding elements from games, for example stating that reality is too easy compared with games, and that it can be fixed by adding game elements that challenge us with voluntary obstacles to put our personal strengths to better use [21, p. 22]. Here are McGonigal's other fixes to reality that I quote because I believe they can be used in a comparison with game design elements as well as in the analysis of the two case examples of gamification described later.

*"Compared with games, reality is depressing. Games focus our energy, with relentless optimism, on something we're good at and enjoy"* [21, p. 38]. McGonigal argues that playing games are the exact opposite of depression, activating extreme positive emotions.

*"Compared with games, reality is unproductive. Games give us clearer missions and more satisfying hands-on work"* [21, p. 55]. Here, McGonigal gives credit to the elements in games that let us follow our

progress more clearly than reality lets us, which gives us a sense of satisfaction.

*"Compared with games, reality is hopeless. Games eliminate our fear of failure and improve our chances for success"* [21, p. 68]. A case is made for how we actually enjoy failing in games because the hope of success is more vivid.

*"Compared with games, reality is disconnected. Games build stronger social bonds and lead to more active social networks. The more time we spend interacting with our social networks, the more likely we are to generate a subset of positive emotions known as "pro-social emotions"* [21, p. 82]. This feeling of community that we have described before is even recognized by McGonigal as a way to make us more likeable.

*"Compared with games, reality is trivial. Games make us part of something bigger and give epic meaning to our actions"* [21, p. 98].

She argues that games make our action feel epic because they are in a bigger context.

*"Compared with games, reality is hard to get into. Games motivate us to participate more fully in whatever we're doing"* [21, p. 124].

McGonigal talks about the escapism that is rooted in society, and how games can help us enjoy real life instead of wanting to escape.

*“Compared with games, reality is pointless and unrewarding. Games help us feel more rewarded for making our best effort”* [21, p. 148]. In the reward section of her book, she goes over many of the points Zichermann made about status-rewards. However, McGonigal argues that it will inspire us to work harder at things we **already** love.

*“Compared with games, reality is lonely and isolating. Games help us band together and create powerful communities from scratch”* [21, p. 172]. McGonigal calls community building “having fun with strangers”.

*“Compared to games, reality is hard to swallow. Games make it easier to tame good advice and try out happier habits”* [21, p. 189]. In this chapter, McGonigal moves the theories from being about increased motivation and happiness to making the world a better place. She argues that games can make us adopt healthier habits.

*“Compared with games, reality is unsustainable. The gratification we get from playing games are an infinitely renewable resource”* [21, p. 244]. This renewable source is what McGonigal calls an engagement economy and she argues it can be used to solve issues such as curing cancer.

*“Compared with games, reality is unambitious. Games help us define awe-inspiring goals and tackle seemingly impossible social missions together”* [21, p. 252]. Elaborating on the previous fix, this chapter

explains that the big issues solved with crowd participation are motivated by the feeling of participating in something heroic and epic.

*“Compared with games, reality is disorganized and divided. Games help us make a more concerted effort – and over time, they give us collaborative superpowers”* [21, p. 277]. McGonigal explains how the time that some people consider wasted on computer games is actually used to become extraordinary at cooperating, coordinating, and creating.

*“Reality is stuck in the present. Games help us imagine and invent the future together”* [21, p. 302]. Finally, this ambitious fix to reality predicts that games will make society more hopeful because we can simulate and solve long-term issues.

Jane McGonigal takes these 14 fixes from the simple statement that games make us happy, to examples of how big games can change the world, in what must be the most optimistic pieces of literature on the topic of gamification that I will use. Granted McGonigal ‘s goal is to save the world, the many lessons in the book can be equally beneficial when analyzing less ambitious examples of gamification, as the book is one of the most revered in the field. Because of the book’s popularity, it is expected that many gamified experiences have drawn inspiration from McGonigal’s theories.

At first glance, the theories and thoughts on gamification by McGonigal and Zichermann can seem similar to the theories of games and game design from the previous chapter, but there are many important differences that I will describe in the analytical chapter.

These differences will form the basis of the criticism of gamification because my presumption is that gamification has its roots in game design and a comparison might reveal similarities and differences that are inherent qualities and flaws.

### Remarks on the choice of sources

The literature on the topic of gamification consists mostly of what I like to call the work of “gamification gurus”. These are books written by authors who also offer services in designing gamification experiences for companies, which means they have to sell the concept of gamification in their books. That means writing with a bias concerning a lack of criticism of the concept and its limitations. This lack of criticism is one of the major themes of this thesis, as it allows me to discuss the qualities of gamification in a later chapter.

The two books I have used to compile the theory of gamification above are two of the best-selling books on the topic, written by authors who hold their own gamification summits [41], speak at TED conferences, and consult Fortune 500 companies [42]. They received stunning reviews and are said to be the most influential in the field [43], which is the reason I have chosen to use them as the grounds for the

gamification theory. Zichermann’s book conveys the ideas and strategies of implementing a gamification strategy while not giving practical advice in designing it [44]. This could be frustrating for someone who wants to build their own gamification platform, but perfect for my use where I mostly need the ideas of gamification. In his book, Zichermann covers a brief explanation of why gamification works for user engagement, but most of the book describes game mechanics and how they can be used. Many of the descriptions and ideas of the books can also be found in other pieces of gamification literature, as became evident when Zichermann responded to accusations of plagiarism [45]. This does not diminish the fact that the book does a good job of summarizing the major outlines of the field of gamification.

I picked Jane McGonigal’s book “Reality is Broken” not only because of its reverence but because it epitomizes the idea of gamification for engagement. The book is not as marketing focused as Gabe Zichermann’s but focuses on the qualities of games and how the qualities can be transferred to other aspects of life. Instead of presenting us with game mechanics that can be used to “gamify” an experience and take advantage of the psychological benefits of game design, McGonigal describes a fantastical utopia where game design cures cancer and depression [46]. Whether or not this is a realistic view is unimportant for my purpose with using the book. I use the

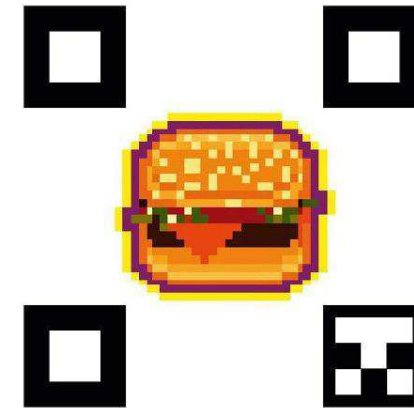
ideas of how and why user engagement in games is transferable to other contexts.

## Casework

For the purpose of exemplifying how gamification can drive user engagement, I will include a few of the most popular examples in modern marketing. To read my general reason for using casework, I refer to the chapter on the topic under the methodology section of the thesis. After the description of the case, I will compare it with theories of gamification and game design to evaluate and discuss how it drives user engagement.

### McDonald's Coinoffer

The McDonald's Coinoffer campaign is a Danish gamification campaign that first launched in November 2005 [47] where it lasted for two months [48]. In the beginning, the Coinoffer brand only consisted of a series of low priced products at the restaurant where the coin referred to Danish 10 DKK coin [49]. A few years later, McDonalds expanded the campaign to where it consisted of collecting coins throughout Denmark, using a QR scanner on a cell phone. When the QR code (which resembles a modern barcode) is scanned the coin is collected and the player will have to find a new QR code to collect the next coin.



(Example of Coinoffer QR code [50])

The player needs to download the Coinoffer mobile application for their Smartphone to be able to scan the codes. The scavenger hunt was present on multiple media, as coins could be found on street billboards, on the internet, in magazines, in television commercials, etc. Each coin collected had a value of 1 DKK but only through redemption at a McDonald's restaurant [51]. Collecting 10 coins for example, could buy the player a cheeseburger that would normally cost 10 DKK. The theme of the campaign is visually rooted in video games, as the commercials are illustrated similar to the pixelated blocks of 80'ies and 90'ies console games [52].

The campaign has been re-launched several times since 2005, each time with a few renewals. In 2013, the launch included 1 million new coins spread throughout Denmark, but McDonald's had readjusted the



placement focusing less on outdoor and TV and more on the online presence of the campaign [49]. The new launch also included an updated app with a game called CoinTune where players can win coins by using their finger to play the McDonald's jingle in a game play style similar to the popular Guitar Hero and Rock Band console game series.



(Screenshot from CoinTune video introduction [53])

The coins fall down and if they are touched when they reach the red bar, the McDonald's jingle will play in tune. The meter in the left side of the screen will go up, as the player times the touches right. If the meter is not empty when the jingle is over, the player earns a coin.

The re-launch of the campaign also introduced a game called Coinoffer Jackpot where players can bet one coin on a slot machine and win an extra coin. The game tracks the GPS on the player's phone and is only

available when the player enters a McDonald's restaurant [54]. Last but not least, the 2013 Coinoffer campaign introduced "Click for Coins" which is a way for people not directly affiliated with McDonald's to incorporate the Coinoffer campaign on their website. The idea is simple; McDonald's will let people integrate a Coinoffer banner with QR code on their own website which benefits McDonald's with free ad space and the private website by including their page in the scavenger hunt and increasing traffic [56].

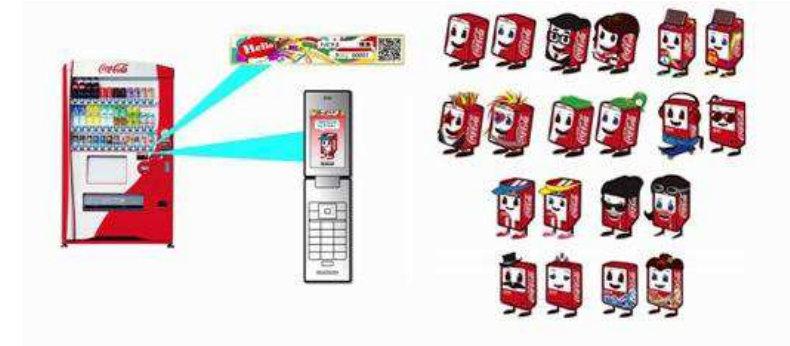
Sara Helweg-Larsen who is press manager of McDonald's Denmark confirms that the Coinoffer campaign is built on game elements with gamification in mind [57]. Since November 2011, the Coinoffer mobile application has been downloaded 350.000 times and 275.000 people have used it [49]. The Coinoffers brand has a brand awareness of approximately 90 % in Denmark says marketing manager of McDonald's Denmark, Joachim Knudsen [52].

### Coca Cola Japan's Happiness Quest

For the purpose of a cross-cultural analysis of Gamification in practice, I have chosen to look at an example of Gamification in Japan. Since the 1980'ies, Japan has been one of the leading countries in the world in terms of developing computer games, and in 2002 it was estimated that the country accounted for almost 50 % of the world's gaming market. Though Japanese games are becoming less and less popular in the west, gaming is so rooted in Japanese culture that it can be seen

everywhere [58]. The focus on this kind of entertainment is so pertinent in the Japanese economy that it accounted for US\$164 billion in 2009 only surpassed by the United States [59]. Japan was also on the forefront of mobile gaming, gaining mainstream popularity already in the early 2000's years before the rest of the world [60]. Arcade gaming culture was most popular in the West in the 80'ies, but playing pinball machines in fast food restaurant is a rare sight today. In Japan, however, arcades are a growing industry that earns over US\$7.5 billion annually [61]. These statistics are meant to give a description of how deeply rooted gaming is in Japanese culture, which leads us to the case of Coca Cola's Happiness Quest.

Open Happiness is a global Coca Cola marketing campaign that was launched in 2009 and focuses on spreading the joy of life's simple pleasures such as opening a Coca Cola [62]. In Japan, Coca Cola wanted customers to use their 400.000 vending machines more and as part of the global Open Happiness campaign launched Happiness Quest. The idea is slightly similar to McDonald's Coinoffer campaign, in that players are meant to collect QR codes with their mobile phones. The difference is that in Japan, each of the 400.000 Coca Cola vending machines has a unique QR code. By the end of the campaign, the company will have put out an additional 420.000 machines which makes the number of QR codes almost equal to the number of coins that are collectible in Denmark's Coinoffer campaign.



(Graphic shows a Japanese Coca Cola vending machine, how to scan the QR code and 22 different vending machine avatars [63])

Players in Japan are meant to scan the QR code from their favorite Coca Cola vending machine which will start the Happiness Quest. At the start, players can name their vending machine and create a virtual avatar for it which can be customized. The customization is bought using the points earned from scanning QR codes on additional vending machines and customization includes shoes, character skins, accessories and backgrounds [64]. The result is a scavenger hunt where players visit as many vending machines as possible to earn points for their virtual avatar. Each player also chooses a favorite machine that they will connect with on a more personal level, receiving campaign news, weather information and similar [63]. Much like the popular mobile game application Foursquare where people can "check in" at various public locations to earn badges, Happiness Quest players can also earn badges by checking in. Examples of check-

in badges include checking in on Christmas for a Christmas badge and checking in twenty times during lunch breaks for a lunch time badge [63].

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[64]

To kick off the campaign, Coca Cola rewarded one random player that signed up in the first month of the campaign a one million yen prize. Additionally, to drive word-of-mouth marketing Coca Cola rewarded one million yen to a random player who had introduced Happiness Quest to a friend [63].

## Analysis

### Is Coinoffers good Gamification?

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In this section, I will analyze McDonald's Coinoffers campaign in the light of the Gamification theory from previous chapters. First, I will determine whether or not Coinoffers is Gamification at all using the definitions of Gamification. I do this to establish a reason to apply Gamification theory. Then I will look at which elements of Gamification the campaign uses and how they are put into effect. Finally, I will describe which elements the Coinoffers campaign is not using, and discuss the consequences of the absence.

The gamification definitions all agreed that the phenomenon is about game elements and user engagement. The Coinoffers campaign very clearly incorporates game elements from the beginning, as can be seen in the introduction video that is heavily inspired by older pixelated computer games that often had a coin-collecting element [51]. The press manager of McDonald's Denmark even confirmed that game elements and the gamification trend is what inspired the campaign. The definition from Gamification provider Bunchball narrows the implementation media for Gamification to websites, social networks and mobile applications which the Coinoffers campaign also adheres to. The Coinoffers campaign's main tool is the mobile application, while many of the collectible coins are on websites.

As we learned from Zichermann, gamification has its roots in loyalty programs such as the ones from airlines. The Coinoffers campaign can also be said to be a modern loyalty program, where people are encouraged to use the mobile application every day to collect coins. To buy a burger with the virtual coins, the player has to play for at least two days because it is impossible to collect more than six coins each day and the cheapest item on the Coinoffers menu costs 10 coins. When it comes to motivating the player to return to play and engage with the Coinoffers campaign, the campaign uses extrinsic motivation in the form of coins. They are given in a continuous extrinsic reward loop because even if a player does not find any QR codes to scan for coins, he or she can play the CoinTune game for one daily coin. The other mini-game in the Coinoffers mobile application is the Coinoffer Jackpot. It is a slot machine game where players can win an extra coin if they spin the slot machine and it shows five coins. This kind of game is what Zichermann would call operant conditioning because it is an addictive system where rewards are given at a variable interval. It motivates players to return to the game because there is a chance they will be rewarded.

When it comes to the seven primary gamification elements by Zichermann, the Coinoffers campaign uses a few. The game is centered on the primary elements of collecting coins which can be said to be the "points" element. The coin element is not used to keep score of a

competition, as the game is not played directly against anyone. Instead, they are redeemable points that are earned in various ways. The Coinoffers campaign uses one other form of points in the CoinTune game. Here, a player can track his progress in the mini-game with a status bar in the left side that shows how well the player is performing. When the progress bar is full the player is doing well, and when it is empty the player is doing poorly.



The Coinoffer game has some element of onboarding in it. Onboarding is the element that eases the player into the game, giving tangible rewards at first, not overwhelming the player with information and offering actions at which the player cannot fail. When it comes to

collecting points from QR codes, the process of doing this is immediately clear and described in both the introduction video and on the mobile application screen. The CoinTune game is also very simple to play and upon successful completion, the game immediately rewards the player with a coin.

The next game elements are a bit more abstract as we continue to Jane McGonigal's fixes to reality. The fixes are ways to add game elements to make us happier. One of them is that games are productive in that they give us clear missions and thus satisfying work. This is giving credit to the element that lets us track our progress clearly, which is a prominent element of the Coinoffers campaign. As soon as we open the mobile application we can track the number of coins we have at the top of the screen. When we play the CoinTune game we can also track our progress with the aforementioned bar in the left side. The goals we work towards are displayed at the "Køb!" menu where the CoinOffers food menu is displayed with prices in coins. Another fix is that games give us a higher chance for success than reality does. Although it is possible to fail in the CoinTune game, we are given unlimited chances to repeat the game until we are successful in getting the daily coin. Thus, our failure has no real consequence and that eliminates the fear of it and gives us hope.



If the player is truly immersed in the Coinoffers campaign, he or she might even feel like a part of something bigger. The campaign states that a million coins are spread around Denmark and that players can only collect them till there are none left. The larger context gives meaning to the players actions, although “being part of something epic” might be a stretch. Another problem with reality, according to McGonigal, is how unsustainable the rewards of real-life are. In a game such as the coin collecting of the Coinoffers campaign, the rewards are an infinitely renewable resource (at least until there are no more coins left to collect in Denmark). There is one part of the Coinoffer campaign that I have not mentioned: Click for Coins, where people can add QR codes to their websites to increase traffic. I do not consider this a use

of game elements in user engagement, as it is not described in the mobile application that most players use. Furthermore, the reward for it is not game-points but rather website traffic to sites that are not directly affiliated with McDonalds or the campaign. Therefore I will conclude that Click for Coins is not gamification but rather a tool to increase the campaign’s awareness.

After having looked at which gamification elements the Coinoffers campaign has included, I will now look at which elements and mechanics it lacks. If we start with the matter of motivation again, Zichermann taught us that as much as 75 % of people who play are doing it for the social aspect of the game. I will argue that a social aspect is one of the things the Coinoffers campaign is severely missing in order to appeal to a broader audience and engage players on a deeper level. Another part of player motivation is the aspect of mastering a game. The only part of the Coinoffer campaign that is slightly skill-based is the CoinTune game where player performance is linked to reward. However, after completing this game for the first time and returning the day after, the game has not become more difficult and there is no option to increase the difficulty. To really motivate players to return to the game, the designers of the Coinoffers campaign could have catered to different difficulty levels. The reward would not have to increase because the reward could easily be mastery itself. Even though Zichermann argues that players should not

feel forced to progress in mastery level if they are comfortable where they are, the game lacks a difficulty option entirely. This also takes us to the first game element that the Coinoffers campaign lack: levels.

Levels are ways to show progression through the game and often involve difficulty. With levels, players can see how far they have progressed and which complexity they should expect. A player's level could be shown in the next game element that the Coinoffer campaign lacks which is a leaderboard. With a leaderboard, players can compare themselves to others to spark competition and motivate repeated returns. The Coinoffers campaign lacks a social aspect entirely, but could have benefited from a leaderboard that could show how many coins a player's friend has. The campaign also lacks badges that can be used as bragging rights. Another element to keep the game difficult is to give challenges and quests to players. The Coinoffers campaign has no long-term challenges except gathering enough coins for a food item. This could be seen as a quest, but I will argue it is a repetitive one. The game lacks a social engagement loop that will bring the player back to the game. If the game had a social element, other players' progress might attract the player to revisit the game. Finally, the Coinoffers campaign has no means for a player to customize his or her experience which would personalize the game and heighten the level of engagement.

Many of McGonigal's fixes to reality is rooted in games being a social experience, but since the Coinoffers campaign does not have a social element, many of these fixes do not apply. Games can build stronger social bonds and lead to active social networks which can generate positive emotions called "pro-social emotions" or a sense of community. According to McGonigal, games are also supposed to make us less lonely and isolated because they can make us band together. Again, the Coinoffers campaign falls short. One fix to reality even goes as far as giving game elements credits for making healthier habits. A game where the reward is fast-food does not seem to apply here either.

When it comes to rewards, Zichermann wrote that they are good for building loyalty, but that a gamified experience should strive to give the most powerful rewards. He claims that the most powerful rewards are: Status, Access, Power, and Stuff in that order. The Coinoffers game rewards stuff, in the form of coins. The criticism for this kind of reward is that it is too easily to calculate how much the Coin is worth (1 DKK), whereas a reward such as status is hard to give a monetary value and people tend to overvalue it. If the Coinoffers campaign had followed Zichermann's advice, the reward for collecting coins could have been: **Status** such as being on top of a leaderboard or perhaps being a "McDonald's VIP", **Access** such as being the first to try a new burger, and **Power** such as being able to partake in the customization

of a new burger on the McDonald's menu. Not only are these rewards much cheaper for McDonald's to give, they will also produce more user engagement and a stronger sense of accomplishment.

To sum up, the Coinoffers campaign does include quite a few of the elements that will motivate people to return and also a few that increases user engagement. However, one key aspect of gamification which is the social element is severely lacking in the campaign. Despite this insufficiency, we heard from marketing manager of McDonald's Denmark, Joachim Knudsen, that it has been downloaded 350.000 times and used 275.000 times, which sounds fairly successful for a marketing campaign. However, it would be interesting to hear how many of the 275.000 people return to use the application 2, 3 and 4 times, i.e. a measurement of the repeated engagement. If repeated engagement is a problem for McDonald's with this campaign, perhaps a solution could be adding a simple leaderboard that would show how many coins the player's friends have collected. This would spark competition, add a social aspect, add a sense of difficulty, increase the lifetime of the game etc. If Zichermann's advice is taken into account, another flaw to the Coinoffers campaign is the reward. Instead of rewarding the player with food products, perhaps status, access and power should be the rewards.

## Is Happiness Quest good Gamification?

In this next analytical section, I will analyze Coca Cola Japan's Happiness Quest marketing campaign using the gamification theory from previous chapters. First, I will determine whether or not Happiness Quest is Gamification at all using the definitions of Gamification. I do this to establish a reason to apply Gamification theory. Then I will look at which elements of Gamification the campaign uses and how they are put into effect. Finally, I will describe which elements the Happiness Quest campaign is not using, and discuss the consequences of the absence.

The gamification definitions were in some ways all similar in describing that the phenomenon is about game elements and user engagement. We can see that the Happiness Quest campaign incorporates game elements such as points, rewards, and customization in the mobile application. The definition from Gamification provider Bunchball narrows the implementation media for Gamification to websites, social networks and mobile applications which the Happiness Quest campaign also adheres to. The campaign's main tool is the mobile application but unlike the Coinoffers campaign, the QR codes are not on websites but on the vending machines (non-digitally). Finally, I assume the purpose of the campaign is user engagement, as repeated visits and engagement with Coca Cola's vending machines is likely to trigger an increase in sales.



With the Happiness Quest campaign confirmed to be gamification, I will now look at which elements of gamification apply and how they are put into effect. As Zichermann described, gamification stems from loyalty programs such as earning miles with an airline. In some ways, Happiness Quest is similar. Airlines award the “player” miles for flying, while Coca Cola awards points in Happiness Quest when a player scans a QR code on a vending machine. In both cases, engagement is encouraged and rewarded. The reward from gathering miles with an airline is often status such as elite membership and access such as early on-boarding on planes. In Happiness Quest, there are multiple rewards. The least attractive according to Zichermann would be **stuff**. There is a grand prize for one player who signs up for the game the first month and another prize for one player who recommends the game to a friend. Since these rewards are random, they could be said to fall into the reward motivation category Zichermann calls operant conditioning. It is not entirely operant conditioning though, because the rewards are not continuous and does not rely on repeated play. Another kind of reward for playing Happiness Quest is an **access** award. When players earn point they can unlock access to customization accessories for their avatar. This is a much cheaper reward for Coca Cola to hand out and can feel more satisfying to the recipient because the value is hard to assess. Gaining access to more and more of these customizations can be a motivation for some

players. The rest of the lessons in motivation will be discussed when looking at what Happiness Quest is missing.

I will now go over the game mechanics that are used in the Happiness Quest campaign. Zichermann claims the basis for any gamification experience is a point system, and Happiness Quest also has one. Each time a player scans a QR code on a vending machine, points are earned. The points do not serve as a way to measure competition or skill level, but works as redeemable points much like the Coinoffers campaign. The difference is in what the points can be redeemed for. In Happiness Quest, the points are used to customize an avatar of the players choosing. Players can buy virtual customization for their vending machine avatar such as hair, shoes, and backgrounds.



(Examples of avatar customization [65])

The next game mechanic element is badges. Unexpected badges can be a pleasant surprise for a player, and the Happiness Quest campaign uses a variety of them. One of the badges can be earned if a player scans a QR code in his lunchtime over a number of days. Other badges are harder to earn, such as ones that require players to travel to different vending machines throughout the regions of Japan and scan QR codes. When it comes to onboarding, the introduction into the game is fairly simple. The player is immediately rewarded with points upon starting the game and scanning a QR code. It is an action at which the player cannot fail while simultaneously rewarding the small effort. There is also an element of challenges and quests in the Happiness Quest campaign. The badges mentioned before and the acquisition of these varies in difficulty, but if the player is a “completionist”, acquiring them will serve as a quest. For some players, this will keep the game interesting even after the customization of one’s avatar has become boring. It also gives the player a sense of direction, i.e. where to go next which is important after onboarding the player.



(Left: A picture of Japan and vending machine avatars scattered around Japan. Right: A variety of different badges that can be earned in Happiness Quest [65])

The Happiness Quest also includes what Zichermann calls a social engagement loop, although a relatively fragile one. A social engagement loop is a call for action from a fellow player that is meant to bring a player back to the game. Normally, it would be a tool for re-engagement for players who have tried the game already, but in the case of Happiness Quest, the social engagement loop is used to bring in new players. Coca Cola put out a cash reward of one million yen to one random person who recommended the game to a friend. Finally, Happiness Quest incorporates the game mechanic called customization as a way to commit the player to the game. The customization is a main part of the game in that the points earned by scanning QR codes are used to customize the avatar that represents the player.

If we take a look at McGonigal's fixes, the Happiness Quest campaign is a clear fix to reality when it comes to difficulty. Although scanning QR codes is not difficult, there is a challenge in collecting the badges that the game offers. This challenge also falls under the fix that states reality is unproductive. Games give us clearer missions, such as the badge collecting in Happiness Quest, which is more satisfying work. At the same time, we can monitor our progress more clearly than with real-life goals because we receive a clear visual reward when we succeed. Our fear of failure is eliminated as well, as there is no real way of losing Happiness Quest.

The next few fixes that has to do with the social aspect of a game, is a mixed review. In one way, Happiness Quest can be said to be social, as one of the grand prizes are given to a player who recommends the game to a friend. However, after the recommendation there is no social activity in the game. The player essentially plays against "the computer" when earning badges, earning points, customizing an avatar, etc. Even though this is the case, some of the social fixes apply slightly to Happiness Quest. One example is that games can make us feel part of something that is bigger and more epic than our normal life. A nationwide hunt for QR codes could induce such a feeling. Going back to the reward aspect, Happiness Quest also fixes the problem of missing rewards in reality. In the game, rewards are an infinitely renewable resource, although where McGonigal sees this as an

opportunity to solve major world issues, Happiness Quest uses it to bring people to vending machines. These were the gamification mechanics and features that the Happiness Quest seems to include. In the following, I will describe which mechanics it lacks and discuss the consequences of the absence.

If we go back to the four kinds of rewards under the acronym **SAPS**, we found that the Happiness Quest game has **access and stuff** rewards. The two other kinds of rewards, **status and power**, are not given. If Coca Cola had included a status reward such as a membership in an exclusive Coca Cola club or a power reward such as the ability to give other players avatar-rewards, it could increase chance of player re-engagement. These virtual awards can feel more rewarding to a player because their value is hard to assess. Continuing in the thoughts of player motivation, Zichermann claims that 75 % of people play games for the social aspect, but Happiness Quest is lacking social content. There is no player vs. player competition or cooperation and no apparent community to be a part of. Instead, the game caters to the other 25 % of players, who play for the sake of exploring the game and achieving things in the game. If Happiness Quest had a social aspect, it could theoretically cater to a wider player-base. I previously wrote that extrinsic motivation is the main part of the game, because there is a cash prize draw. Zichermann's theories argue that this is a powerful thing, but the problem with the extrinsic reward in Happiness Quest is

that it is a one-time reward. Without an extrinsic reward loop, players feel less motivated to continue playing. The final part of player motivation has to do with mastering the game. Unfortunately, Happiness Quest does not include many difficulty levels since QR codes are easy to scan. There are, however, some difficult badges that can be earned, but it will hardly feel like mastering the game. When players are not challenged with increasingly difficult tasks, it creates a mismatch between skill level and difficulty that leads to a game without 'flow'.

When it comes to game mechanics, Happiness Quest does not include levels. Levels are a way to show how the game progresses, but since there is no difficulty progression, there is no need for the player to see how far they are or how much complexity they are to expect. One way to incorporate this game mechanic to Happiness Quest could be by unlocking achievable badges gradually. There are also no leaderboards in the game, which is a consequence of the game not being social. A leaderboard used to compare one's progress to other players is a powerful motivational tool. It could have been included in Happiness Quest as a ranking of how many badges or points the players have. This could spark competition and reinforce the social engagement loop that is otherwise lacking a bit.

As mentioned, the most blatant theoretical insufficiency of Happiness Quest is the lack of social playing and community building. This makes

some of McGonigal's fixes to reality non-present, such as the fix of stronger social connectivity. Games can build strong social bonds and lead to active social networks that will invoke positive pro-social emotions. Reality can be lonely and isolating but banding together and creating communities around games can fix that.

In conclusion, Happiness Quest uses even more gamification mechanics than the Coinoffers campaign – mechanics which ultimately might prolong the lifetime of the game as well as the player engagement. Continuous user engagement is certainly what Coca Cola is looking for, as the game is played by interacting with their vending machines and repeated visits are likely to lead to repeated purchase. Making a scavenger hunt out of visiting numerous Coca Cola machines as opposed to the scavenger hunt of online ads in Coinoffers leads to a different kind of engagement with the brand. However, Happiness Quest still suffers from a few theoretical quality flaws. The main flaws are: no natural difficulty progression, not enough variety in rewards, and no social play.

### Cultural differences in gamification

To determine key cultural differences in Gamification, I will look at the two case examples from previous chapters since they were campaigns that took place in two different cultures. I will also draw conclusions as to why these cultural differences exist and what the consequences are.

There are numerous similarities between the Coinoffer campaign and the Happiness Quest campaign. The most obvious is the main activity of both games; scanning QR codes. In both case examples, this is done to earn points that can be redeemed for rewards. The search for QR codes is set up as a scavenger hunt for the player, which makes collecting the points the main focus and time-consumer of the game. The player needs a mobile phone with internet access in order to download a mobile application and play the games further. In both gamification case studies, this scavenger hunt is meant to repeatedly expose the player to the company's brand. Both games use an extrinsic reward system that offers the player a chance of getting tangible, real-life rewards for their efforts in the game. This focus on reward in the form of **stuff** appears in both games, even though Zichermann argues it is perhaps the weakest form of reward.

In terms of game elements, both games employ a point system that the player can use to track the numeric value of his or her efforts. The points are earned in fixed values when scanning QR codes, meaning every QR code is worth the same regardless of effort to obtain it. The onboarding is very similar in the games: a video introduction explains the point system using animated video game avatars, and a small initial effort gives the players a reward that eases them into the game without overwhelming them with information. A clear way to track the player's efforts is one of the ways McGonigal proposes to "fix reality"

and both games have a user interface that easily allows this.

Continuing in the lines of fixes, the games both give players a high and multiple chances of success with no real fear of failure. Although the rewards feel like they are earned because players put in effort to achieve them, it is virtually impossible to lose points or the game for that matter. The points are a sustainable and infinitely renewable reward for as long as the campaigns last. Collecting them makes the players part of the campaign which could make them feel like they are part of something epic. This larger context gives meaning to the player's actions – something we often miss in our work and real-life. These are the main similarities between the Coinoffers and Happiness Quest campaigns.

Next, I will look at the differences between the two case examples of gamification. The differences between them should be relevant when trying to determine if there are cultural differences in gamification. The first difference that comes to mind is that there is a slight skill element in the Coinoffers campaign in the form of the CoinTune game where players have to use reflexes and hand-eye coordination to gain a reward. There are no mini-games in Happiness Quest and the only way to be rewarded is by signing up and scanning QR codes. This is not a game-aspect that the player can actively improve at so one key difference is the challenge the players are met with.

When it comes to rewarding the player, the two gamification case studies also employ different methods. Happiness Quest has included **access** as a reward which we know is a powerful way to reward and engage the player. They did this in the form of unlocking customization for the player's avatar. While both campaigns had much focus on rewarding **stuff**, there was also a difference in how this extrinsic reward was given. The Coinoffers campaign used a continuous extrinsic reward loop where the player can keep earning points and buying fast food from the McDonald's menu. The Happiness Quest campaign, however, used a form of operant conditioning where a large cash prize was given out at random to a player who signed up for the game. The difference between the campaigns was both the size of the reward but also the way it was earned. One campaign had reliable and small rewards while the other had unreliable large rewards.

When it comes to some of the classic gamification design mechanics, the games differ in some ways. Happiness Quest uses badges as a way to reward the player for scanning a sequence of QR codes at a specific place or a specific time. This makes a progression in the scavenger hunt and a goal for hardcore players and completionists. Coinoffers does not use badges which takes its toll on the longevity of the game. The badges can help keep the game interesting and give purpose and direction to the player. Finally, Happiness Quest uses customization in the form of customizable avatars. The player gets to express his or her

individuality by designing a unique avatar, and this can help the player feel more committed to the game. It also gives the game designers a purpose for the points that the player earns without using costly rewards. Gathering all accessories for the player's avatar can become a quest in itself which expands the lifetime of the game and thus the engagement.

These were the major similarities and differences between the two gamification case studies; Coinoffers and Happiness Quest. As we can see, the games are quite similar in many aspects but differ when it comes to rewarding (and thus motivating) the player. The designers have chosen different methods and different kinds of rewards which could have an impact on engagement in terms of how long the player plays, and how many times the player will return to the game.

Having read all popular literature on gamification I have found no theory that suggests major differences between Eastern and Western gamification techniques. The most well known Asian gamification expert is called Keith Ng and he is the CEO of a gamification consultancy company called gametize [66]. In May 2013 he spoke about gamification in Asia at GSummit SF 2013 which is the biggest gamification conference in the world. Ng's presentation was mostly centered on providing proof of the booming gamification market in Asia, citing a 150 % market growth of mobile marketing by 2013, and 36 million active social media users in Japan [67]. In the section

outlining Coca Cola Japan's Happiness Quest I also wrote that Japan is on the forefront of mobile gaming and accounts for a large portion of the world's gaming market [68].

The presentation did include a small section that was not meant to describe Asia as a booming market but rather to give advice to prospective Asian gamification enterprises. The lessons and observations that Keith Ng presented may be the only published characteristics of Asian gamification. The most notable are as follows:

- Badges/virtual items are insufficient to engage audience (because Foursquare did not replicate their success in Asia and Foursquare is heavily based on badges)
- Extrinsic rewards upfront are pertinent to the experience
- Gamification can be a big distinctive advantage for now with little adoption and knowledge

[67]

On the next slide, Ng mentions the key elements and key goals for gamification projects in his company which are:

KEY ELEMENTS				KEY GOALS			
<b>G</b>	<b>A</b>	<b>M</b>	<b>E</b>	<b>T</b>	<b>I</b>	<b>S</b>	<b>E</b>
<b>Generous Rewards</b> <b>Appeal and Freshness</b> <b>Maintainability</b> <b>Easy to Start</b>				<b>Togetherness</b> <b>Intrinsic Motivation</b> <b>Social Actions</b> <b>Engagement</b>			

[68]

From these, we can see some similarities with the previous gamification theories of Gabe Zichermann and Jane McGonigal. First we have generous rewards which are a common theme in all gamification literature. The addition that they should be generous is similar to Gabe Zichermann's reward loops. Appeal and freshness seem to be hard to link with mechanisms, and maintainability is more connected with the game designers and not the players. We have heard of onboarding, as the element used to allow players to engage early and easily and Ng mirrors this with his "easy to start" element. When it comes to key goals, two of them have to do with the social aspect of games: togetherness and social actions. Togetherness seems similar to McGonigal's fixes that recommended communities and multiplayer content in the games. Ng's social actions could be what Zichermann calls social engagement loops – the mechanics that brings a player back to the game with a social call to action from a fellow

player. Ng's "engagement" goal seems a bit redundant when looking at the other elements.

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I have deliberately saved the goal Ng calls "intrinsic motivation" for last, as it seems to be counter-intuitive to his previous point of *"extrinsic rewards upfront are pertinent to the experience"*. As I have described earlier, extrinsic and intrinsic are opposites both in terms of rewards and motivation. Extrinsic has to do with rewards such as money or items and intrinsic has to do with the reward and motivation of learning or getting better as a person or player. There could be several reasons why Keith Ng presents these seemingly opposite opinions in the same speech. Perhaps he thinks the two kinds of rewards are equally important and both have a place in gamification. Another reason could be that he thinks extrinsic rewards are great for initial engagement while intrinsic rewards are the long-term solution.

It is interesting that one of the major differences between Happiness Quest and Coinoffers – the reward system – is also the biggest difference I could find in eastern vs. western gamification theory. To sum up the differences, Keith Ng mentions both intrinsic and extrinsic motivation as goals of gamification while Zichermann only mentions extrinsic in the form of SAPS: status, access, power and stuff. The differences in the two case study examples are the way extrinsic motivation is given. Happiness Quest gives all players a random chance to win a large cash prize as well as redeeming points for access

rewards. Coinoffers only lets loyal players redeem their points for cheaper rewards: fast food. Happiness Quest follows the "Asian gamification theory" that I will call Keith Ng's presentation, because extrinsic rewards are presented up front in the form of a chance to win a prize. Happiness Quest does, however, not cater to intrinsic motivation as there is no learning element or difficulty in the game.

Whether or not the differences in the two gamification case studies and in the gamification theory are culturally significant is hard to tell. Generalizing on the account of two gamification campaigns is perhaps not very telling for a culture as a whole. Furthermore, the Asian gamification theory is 14 days old as I write this. The lack of culturally specific gamification theory makes it hard to assess whether the differences we have seen are due to cultural differences or simply different approaches to a relatively new phenomenon. I find it more striking how many similarities there are between the two case examples despite the large geographical difference. The similarities are so vast that gamification theories can be said to be universal. To make a more accurate assessment of cultural differences in gamification, one could study a statistically significant amount of cases from various cultures and compare the financial results of the campaigns to see what works and what does not. If these results showed a noteworthy difference in which gamification techniques worked, perhaps gamification theory would not be as universal as it seems.



## Gamification – Pitfalls and Discontents

The analytical portion of the thesis has so far been about the application of gamification in a couple of case examples. The purpose of those chapters was to study the direct use of gamification elements in real-world examples to show how it can be used to engage users. In both case examples we saw some gamification elements put to use and some that were overlooked. In the next part of the thesis, however, I will discuss the inherent flaws and benefits of gamification as seen from the perspective of a regular game designer. The reason I find this pertinent is that gamification has its roots in game design. We see this from the numerous gamification definitions that state game elements or game mechanics as the driving force. If this is the case, then I should be able to compare gamification to the theories of game design described in a previous chapter and see which game design elements are put to use and which are overlooked. This could help to describe how gamification could improve its user engagement or find theoretical flaws in the phenomenon.

### “Everything has the potential to be fun”

The title of this section is a quote by Gabe Zichermann and one of the powerful quotes behind the gamification movement. It implies that tedious tasks can be made fun, by using the ideas of gamification, which is adding game design elements. Many of the flaws of

gamification that I will describe have their roots in this statement because I will argue that not everything has the potential to be fun.

The first argument against “*everything has the potential to be fun*” is that not all games are fun. The statement implies that games are always fun, but this is not always the case. To prove this, one has only to search through video game reviews online (and sort the results after lowest scoring games). An example is the video game reviewer Seanbaby from Seanbaby.com who wrote about the Atari game “Fight for Life”. Here is an excerpt from the review:

*“Have you ever stepped on a nail during a seminar about trends in hydraulic pump insurance? If so, then keep doing it. It's more fun than this electronic wasteland.”* [69]

However, “Fight for Life” is an old game so perhaps newer games are just better? Kristian Reed from Eurogamer wrote about the PlayStation 2 game “Terminator 3: Rise of the Machines”:

*“If you have a flagrant disregard for your sanity, your bank balance and enjoy the kind of masochistic self flagellation that true weirdoes get up to in the privacy of their own home, then by all means pop down to your local gaming emporium and pick up Rise of the Machines.”* [70]

These examples are essentially an elaborate way to describe that not all video games are fun, but why are they not? I will argue that games

are not fun *because* they are games, but only when they are well designed. That means implementing game mechanics in a way that is enjoyable for the player, which is where the theories of game design joins the picture.

### Game mechanical flaws in gamification

To justify this section we need to allow a couple of premonitions. One is that game mechanics described in the “What is a Game?” are essential to creating a good game. The next statement is that a good game is important for user engagement. The final statement is the conclusion that user engagement in gamification relies on a well designed game using the game mechanics described in “What is a Game?” With this mindset we can look at the game mechanics that are overlooked in the theories of gamification to see how user engagement can be improved.

One of the elements that much of the game design theory focuses on is rules. We saw it in Caillios’ definition of game playing as “governed by rules” and in Juul’s definition of a game as “a rule based formal system”. Rules were described as important to guide player behavior towards the intended goals. Perhaps the most important and overlooked purpose of rules is that they make *rewarding* goals possible. The sense of achievement in overcoming a challenge made by rules is a strong factor in the engagement of games. If a company decides to add badges as rewards to users for interacting with their

websites, the rules of the game are simply too easy. It eliminates the very important factor of “struggle” that we see again and again in theories of game design. We see it in different forms such as Csikszentmihalyi’s *flow*, Costikyan’s definition of games as a struggle towards a goal, and Juul’s definition of games as a system where players exert efforts in order to influence the outcome. We see it in LeBlanc’s taxonomy of game pleasures where **challenge** is considered the heart of the game and Schell’s additions to the game pleasures: pride in an accomplishment and triumph over adversity.

I will argue that many gamification experiences are simply too easy and does not focus enough on the struggle towards the goal. Perhaps companies are too afraid to make the struggle so hard that players give up. In the case examples of gamification, Coinoffers and Happiness Quest, both games took almost no skill except pointing a mobile phone at a QR code and basic hand-eye coordination. I will argue that companies who make gamification experiences can achieve more continuous and concentrated user engagement if they are less afraid of making their games challenging.

There are many ways to make a game more challenging in order to get the player to struggle towards the goals. We have seen that one important game element is objects that can have states. The states can be secret and the struggle can be predicting the secret state, such as a competitors hand in a game of poker. Another game mechanic that

adds struggle is player action and especially the amount of possible actions, having the actions elicit multiple results, and having side effects that change the constraints of the action. Adding the element of chance to games can also give a rich and unpredictable struggle that adds complexity to the game. The case examples of gamification that I have looked at in this thesis have lacked secret states and multiple actions with multiple consequences. For all these mechanics to truly add struggle, they also need to be in balance.

The two most overlooked game *balance* mechanics in gamification is meaningful choices and punishment. Meaningful choices relates to the actions described above. If some actions feel meaningless, a dominant strategy will evolve that trivializes the game. Meaningful choices can also involve letting the player choose between risks to bet on their luck with the possibility of bigger rewards. Punishment is another balance mechanic that seems overlooked. As with making the games challenging, it appears gamification designers are scared of designing games that involve punishment. This is a shame since punishment can enhance the experience for the player. The looming threat of failure that actually has consequences increases the value of success and the reward success entails. Punishment makes taking risks a more vivid and exhilarating experience. The gamification examples I have used in this thesis have both lacked punishment and meaningful choices.

Generally it appears that the engagement of gamification can be improved if gamification designers were more aware of LeBlanc's taxonomy of game pleasures and the additions to them. Instead of focusing on adding game elements to a user experience and thinking that it will then have the same appeal as a game, they could look at game pleasures such as fantasy, challenge, sensation, discovery and submission and design the experience around that. When designing gamification, they could consider Jesse Schell's theory of interest curves. It seems that some gamification experiences are very linear, such as the scavenger hunts in Coinoffers and Happiness Quest. After redeeming points for the first time, the interest curves of these games do not rise but stay at the same level. They might even decline because of the disappointment of not having an ultimate climax to look forward to.

### **The flawed reward system of gamification**

Rewards are a central part of gamification theory. Zichermann described the four kinds of reward under the acronym **SAPS**: status, access, power and stuff, ranking them from most to least powerful. He described how these rewards must be given in a loop that will keep the player coming back to the game. The rewards were also described in his thoughts on gamification mechanics where he stated that some of the essential mechanics are points, levels, and badges. Jane McGonigal also wrote a fix to reality pertaining to reward systems:

*“Compared with games, reality is pointless and unrewarding. Games help us feel more rewarded for making our best effort”.* We know rewarding is important in games, but do the ones described above really feel rewarding?

I will argue that perhaps points, levels and badges are not rewards (or not proper rewards). Some people might even find it offensive when Gabe Zichermann describes operant conditioning as an addictive reward system where players are rewarded in random intervals and ratios. A quick Google-image search for operant conditioning gave this result:



The roots of operant conditioning are B.F. Skinner’s study on animal behavior involving a rat in a cage that operates a food dispenser with a lever [71]. I will later look at the *effort* involved in gamification and

game rewards, but first look at reward itself. A reward such as a badge that we saw in the case example Happiness Quest is what Zichermann calls a gamification reward mechanic that can give an unexpected and pleasant surprise for a player – much like a sugar pellet in a rat cage.

However, random badges are not mentioned by Marc LeBlanc when he described his taxonomy of game pleasures. In the study of game design we learned that rewards should be rooted in what players find pleasurable in games. These pleasures were humor, anticipation, possibility, wonder, thrill, etc. Some will argue that badges can be used to induce the game pleasure called “surprise” and that may be true. If a virtual reward such as points is what makes the game fun, then the best game in the world would have one giant button that would give the player one million points each time it is pressed. However, we would not find that very engaging.

A prime example of a gamification case that is centered on badges is the social network Foursquare. Foursquare is a geographical location based application where people “check in” by sharing their location with their friends. It is done with via GPS in a Smartphone, and by checking in a certain number of times or at specific locations the player can earn badges. An example of a badge could be checking in at every McDonalds in the player’s home city. Foursquare saw massive success with one million users in the first year, 2 million users three months after that and 3 million users a month and a half after that [72]. The

example of Foursquare seems like a direct proof that a reward system that uses badges can create a massive success. I will not argue against the success of Foursquare, but surveys showed that only 1% of Foursquare's players returned weekly [73]. If continuous user engagement is the goal then the example with Foursquare could be a warning not to overly saturate a player with virtual rewards. This leads me to the next point of the reward discussion which is that the nature of the reward is not as important as how we achieve it.

### The great extrinsic vs. intrinsic debate

One of the aspects of game design I found most confusing is the debate between extrinsic and intrinsic motivation and rewarding. First I would like to clear up the semantics of the expressions, mainly the differences between extrinsic and intrinsic motivation and extrinsic and intrinsic rewarding. Extrinsic rewards are external things that are tangible and visible to others such as a cash reward (Happiness Quest) or virtual badges. Extrinsic motivation is the motivation a player feels when the reward is extrinsic. Intrinsic rewards are internal things that are intangible and invisible to others such as a compliment or an emotion such as pride or joy. Intrinsic motivation is the motivation a player feels when the task is driven by the desire for intrinsic rewards. The reason why the debate between intrinsic and extrinsic motivation can be confusing is that some of the theories of gamification and game design seem to contradict each other.

As I have mentioned often, Zichermann lists four kinds of rewards under the acronym SAPS: status, access, power and stuff. All of these are extrinsic rewards that he believes can be applied to a gamification experience to build loyalty. Zichermann also discusses the topic of intrinsic and extrinsic motivation directly when he says "*intrinsic motivation is over*" because extrinsic rewards are more powerful. The reason for this is exemplified in his story of a child who plays piano for fun and to master it. When the child is entered into competition and wins, the child will keep playing because winning is a great extrinsic reward, but as soon as the child starts losing competitions, the withdrawal of extrinsic rewards will overpower the previous intrinsic motivation. Suddenly the intrinsic motivation feels less powerful and the child will stop playing. Zichermann's solution is a continuous extrinsic reward loop because if the extrinsic reward is never taken away, there is no reason for the player to stop playing.

So far Zichermann has only argued for extrinsic rewards and motivation, but in the next part of his theories he talks about mastery of the game. He mentions how it is important to ensure flow in the gamification experience, which is congruence between difficulty of the game and skill level of the player. This focus on mastering the game seems to imply an importance of intrinsic rewards. Being good at a game is an internal feeling which only becomes extrinsic if it is manifested in a public victory. It is also implied in his description of

game mechanics that includes **challenges and quests** to give the player tasks to overcome. Zichermann says that challenges will keep the game interesting and cooperative quests will give a powerful feeling of reward once completed.

McGonigal's fixes are very centered on the motivation behind playing because her overall goal is to take that motivation and apply the catalysts for it to our real lives. She mentions putting our personal strengths to use, giving us satisfying work, rewarding us with the feelings of community and being part of something epic, and the gratification we get from playing. These appear to be internal feelings and not something like Zichermann's tangible "show-off" rewards. So there appears to be a slight conflict in regards to the importance of extrinsic and intrinsic motivation in gamification experiences, but what does the theory of game design mention on this topic?

We first saw it mentioned in Mihaly Csikszentmihalyi's description of autotelic and exotelic people. Autotelic people are internally driven and fueled by curiosity and exotelic people are driven by money, power and fame. This sounds deceptively like people driven by extrinsic and intrinsic rewards. Csikszentmihalyi argues that what we do involves a combination of the two, but urges people to find *flow*: the state in which our skill is consistent with the challenge we are met with. Jesse Schell writes that good game goals should be rewarding, giving the player a sense of the achievement. Achieving the goal can be

a reward in itself if the challenge is adequate but an extrinsic reward can be a good additional incentive for the player. Again, this highlights the duality of extrinsic and intrinsic motivation and it seems Jesse Schell believes in a mixture of the two.

Finally, Ralph Koster was responsible for the section I called The Overlooked Element – Fun. In his book, *A Theory of Fun for Game Design*, he wrote "*Fun from games arises out of mastery*" [16, p. 40]. Koster seems more convinced that intrinsic motivation is the reason we play games; that it is fun because it provides experiences of competence and mastery. We play for the challenge of overcoming puzzles and quests that are difficult, much like the thoughts of Csikszentmihalyi's *flow*. The difference is that flow relates to exercising mastery while Koster's fun relates to learning without pressure. The similarity is the focus on intrinsic motivation.

It appears that Zichermann is the one who puts most emphasis on extrinsic rewards which is also apparent in the case examples of gamification I have looked at. Happiness Quest and Coinoffers had no real focus on mastering the game or the feelings of accomplishment that is characteristic of intrinsic motivation. Instead they were centered on extrinsic rewards such as points and cash rewards. In their defense, it is harder to implement intrinsic rewards in games because it requires knowledge of how to challenge players and increase difficulty without making the challenges impossible or too easy.

Though extrinsic rewards are easier to apply in games, game design theorists such as Koster, Schell and Csikszentmihalyi would probably want gamification experiences to focus more on challenging the player. An increased focus on intrinsic motivation in gamification could increase player engagement and avoid the faith of Foursquare where the novelty drew players in but failed to make them return.

### The voluntariness of play

The perils of extrinsic rewards lead me to the next discussion: the voluntariness of playing. As I have written earlier, one of the characteristics that makes play different than most of everyday life is that it is voluntary. Play is not autotelic unless it is voluntary. Here lies a conflict when it comes to gamification. Zichermann says *“Games are the only force in the known universe that can get people to take actions against their self-interest, in a predictable way, without using force”* [31]. If we look at this statement, it appears there is a conflict between playing voluntarily and “getting people to take actions against their self-interest”. How is the conflict apparent in cases of gamification?

In the two case examples I have used for this thesis, playing Happiness Quest and Coinoffers has been voluntary actions. If a player wanted to participate, they had to download the application, create a user and act with either vending machines or QR codes on websites. If a person wants to use Coca Cola’s vending machine, he is not forced to play

Happiness Quest in order to buy the product. If a person wants to buy a burger at McDonald’s, he is not forced to play any Coinoffers game. However, not all examples of gamification are like this. In fact, most examples I have seen work in the opposite way. Take the example of campusfood.com which is a site where colleges can order food delivery for their dining halls. The gamification company Bunchball was hired to gamify the buying experience and added award points and badges as rewards for repeated purchase [75]. This makes the gamification experience involuntary because the buyer is rewarded with badges whether he chooses to play or not. The same was the case for J. Hilburn who added point awards for employees’ “high value activities” in order to increase customer engagement and increase sales [76]. The gamification trend seems to move towards giving people who use a service or a product an extra incentive to do so, by adding reward elements from game design.

This is a problem, if we look at the theories of game design. James P. Carse explained it best when he said *“It is an invariable principle of play that whoever plays, plays freely. Whoever must play, cannot play”* [9]. We also saw this view in Roger Caillois definition of game playing as *“an activity which is essentially: Free (voluntary)...”* I will argue that the focus in gamification on extrinsic rewards that we have seen so often, removes the autonomy of playing. When we are rewarded by external sources, we are controlled by external sources and that takes

the autonomy and voluntariness from us. It also devalues the activity because it implies that the game is not worth doing without the reward. It is not worth doing for its own sake (intrinsic motivation).

Voluntary autonomous play explains Chuck Coonradt's statement *"People will pay for the privilege of working harder than they will work when they are paid"* [7, p. 16]. The voluntariness of play is why people will pay hundreds of dollars for the opportunity of running 42 kilometers in Copenhagen. It is the reason why people who work in a refrigerated warehouse must be paid extra for the terrible working conditions, but when the weekend comes they will pay thousands of dollars to climb a snow-clad mountain and ride a snowboard down. It is the reason why a manager of a company of 40 people is well paid for his overview and the extra stress that is put on him, but when he goes home and manages a 40-man raid in World of Warcraft he pays for the privilege. We have known this for a long time. Mark Twain wrote *"Work consists of whatever a body is obliged to do, and that Play consists of whatever a body is not obliged to do"* [77]. In spite of my fear of sounding pretentious, let us go even further back: *"Nothing that is learned under compulsion stays with the mind. Do not, then, my friend, keep children to their studies by compulsion but by play. That will also better enable you to discern the natural capacities of each."* Plato wrote that in "The Republic" [24, p. 204].

Instead of heeding the ideas of great thinkers, it appears gamification experts think game elements can be applied to involuntary people in order to make them "take actions against their self interest". In terms of my problem statement and how gamification can drive user engagement, this discussion should be relevant to determine how gamification can be improved. The trend needs to move away from involuntary and towards voluntary play in order to truly grasp what makes games so engaging for players. This leads me to my next discussion. Even if participating in gamification experiences is voluntary, the player might still be very aware that the game is not just made for his enjoyment. It has a business value.

### User Value vs. Business Value

No matter how well designed a gamification experience is, no matter how much focus is on intrinsic motivation and the autonomy of playing the game, the player will always know that a company made the game for the company's sake. Zichermann wrote:

*"The marketing dictum that 'good marketing cannot compensate for a bad product' is patently turned upside down in the Funware world. Game mechanics and the psychological conditions they exploit are powerful tools that marketers can use..."* [29]

What Zichermann is saying here is that game elements can be exploited for the benefit of the company that uses gamification. This



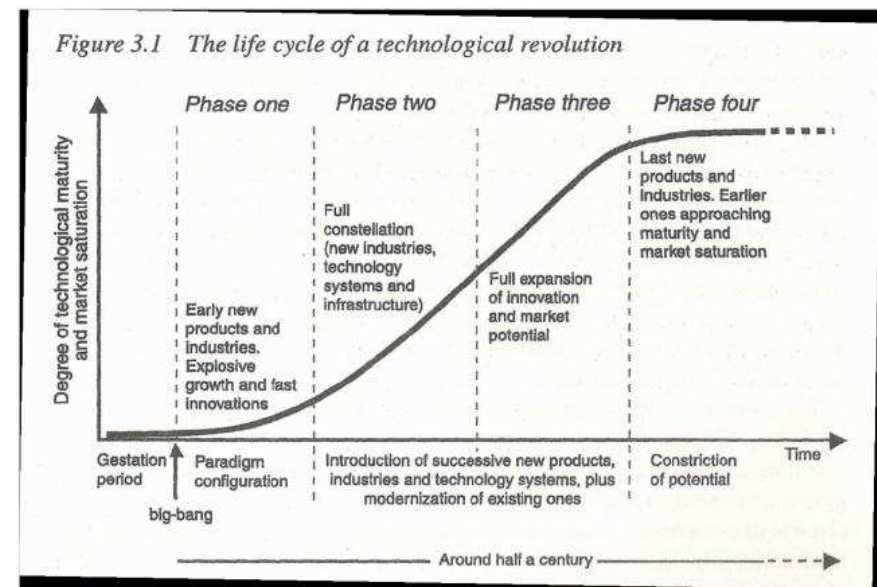
cements the power balance between the player and the company as a slightly abusive relationship where the player is tricked into engagement. Whether or not this is ethical, I will not comment on, but for the purpose of judging the quality of user engagement I think it is an interesting discussion.

The power balance and inequality between user value and business value is easily exposed in gamification when the rewards are virtual goods. The player might quickly assess that he gives the company valuable information through playing, such as website hits and customer demographic information but is rewarded with something largely without value (badges, points, levels). How can companies that use gamification avoid this skewed power balance? The user value and business value needs to be roughly equal. If the player feels that he gets as much as he gives, the relationship changes. For a discussion on what the player will find valuable, I will refer to the previous section “The flawed reward system of gamification”. Whether or not a broken power balance is a real threat to the implementation of a gamification strategy is hard to say. Perhaps a threat could be the novelty of the phenomenon? Will user engagement depend on the apparent lifetime of gamification as a phenomenon?

### Life Cycle of a Technological Revolution

Thinking of gamification as a technological revolution might seem like giving too much credit to a relatively narrow and new phenomenon.

However, for the purpose of exploring the potential future of gamification with the model proposed by Carlota Perez I will consider gamification to be a *small* technological revolution. To reiterate, the purpose of applying this model to gamification is to investigate how the phenomenon can change over time because the life cycle might be similar to actual technological revolutions.



[23, p. 6]

The model originated as a socio-economic tool to explain the bursting IT bubble of the early 2000's, but it reveals a few truths about the development of current and ongoing technological “revolutions” as well. The vertical axis show the degree of technological maturity and market saturation and the horizontal axis is time, exemplified here as

approximately half a century [23, p. 6]. For the revolution of a smaller phenomenon such as gamification, half a century could very well be replaced by 5-10 years, but the time measurement is not important for the understanding. The four phases are what really defines the model. After a brief gestation period, the “big bang” of the revolution opens the first phase; a phase where the paradigm is configured and the industry and its innovations are in explosive growth. Phase two and three are where the phenomenon goes from being new to introducing new products, industries and modernizing existing ones. The fourth phase sees the last new products of the phenomenon while the market reaches its saturation and the potential of the revolution becomes more constricted [23, p. 6].

According the Perez’ model, gamification as a phenomenon will strengthen over time due to the evolution of new and innovative products as well as popularity. It is much harder to determine in which phase the small revolution is currently in. We would need to assess whether gamification has reached its full potential, if the market has become saturated with gamification products or if new and innovative gamification products are still being developed. To determine if new gamification products are innovative would largely be a subjective matter and not the point of this chapter.

The reason for using the model is to give an indication of the process that gamification is going through and to visualize how fleeting a

technological revolution can be. The stippled line at the end of phase four indicates how the revolution irrupts in the space shaped by a newer technological revolution and must confront the new practices, criteria, ideas etc. in the hopes of surviving. According to Perez, this battle of the new vs. the old paradigm will be conducted by the financial capital assisting each of the phenomena [23, p. 7]. Thus, gamification as a popular phenomenon will only live as long as new technological revolutions will let it. The threat of gamification as a fleeting technological phenomenon holds no real consequence on matters of user engagement as long as the user finds novelty in the gamification experience.

## Conclusion

I started this thesis with a curiosity about gamification and the role it has in modern marketing. Having played video games my whole life, I could easily relate to games that provide engagement or addiction and how this could be used in other contexts. I wanted to investigate how this user engagement happens and what it takes for the gamification experiences to have that same kind of user engagement that I have experienced in video games. My idea was to look at the popular books on gamification to examine how the theories are used in practice. To do this, I used two case examples of contemporary and popular gamification and looked at how the case examples aligned with the gamification theory. As a product of this comparison, I also investigated how the gamification theories held up when used in different cultures. Finally, I wanted to contribute to the gamification phenomenon by looking at the field of game design and evaluating how the game design theories could be used to improve the user engagement of gamification.

The first thing I discovered was that judging from the gamification case examples I used, Coinoffers and Happiness Quest, some of the theories of gamification were largely overlooked. The games do not include many social elements and the reward systems are based on prizes that are theoretically less powerful than they could be. Many other game elements were present in the experiences though, but my

recommendations were to add social elements, better rewards and more difficulty options. When it came to the cross-cultural assessment of gamification theory, I found no significant differences in gamification culture. Though the sample size is small, I believe there are virtually no noteworthy differences in how gamification can be applied in different cultures.

I went on to discuss how gamification can be improved with theories of game design. This ended up largely as a criticism of the lack of some game elements in gamification and the thoughts on some inherent issues with the phenomenon. One of the insufficiencies of gamification is the lack of difficulty/challenge which is essential to keep the game interesting for the player. I found that there is not enough focus on LeBlanc's taxonomy of game pleasures in gamification. Furthermore, one of the major issues with gamification is the reward system. Currently, virtual and extrinsic rewards such as badges, points and prizes are favored over the intrinsic rewards such as mastering the game. This flaw strives against the game design theories of fun arising out of mastery as well as Csikszentmihalyi's thoughts on flow.

Finally, I discussed some of the problems with the nature of gamification being sometimes involuntary and for the profit of a company. This strives against the idea of gameplay being an autonomous act and sets up a skewed power balance between experience makers and experience consumers. These issues along with

the possibly short life cycle of a technological revolution are some of the problems gamification must overcome. The user engagement of gamification can possibly be improved by challenging players, focusing on intrinsic motivation, branching to more game pleasures, making the games voluntary to play, and giving back to players as much value as they give the companies.

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