Gamification in Change Management processes

An empirical research by means of qualitative methods to analyze relevance, implications and selected use cases

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DECLARATION OF AUTHORSHIP

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PREFACE

This work has been submitted in order to obtain the academic degree Bachelor of Science in business information systems at the Munich University of Applied Sciences.

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The common question that gets asked in business is, ‘why?’
That’s a good question, but an equally valid question is, ‘why not?’

Jeff Bezos
ABSTRACT

This bachelor thesis is an initial scientific attempt to determine the relevance and implications of Gamification in the Change Management context. Special focus lies on answering the leading question whether and when Gamification can be used as a tool for Change Management. Therefore practical guidance is provided for companies which aim to apply Gamification in the Change Management context.

The theoretical framework of this paper is based on a combination of literature review and the analysis of expert interviews. A qualitative approach was chosen because it can provide a new way to acquire deep understanding about the phenomenon studied.

The main contribution is an empirically justified framework, which gives guidance on when to use Gamification in the Change Management context. Gamification is a possible means to motivate people in a transformation. Therefore the decision whether Gamification is an appropriate tool in a specific change, is made during the development of the communication strategy.

To give some further guidance whether Gamification should be part of the communication strategy, a Gamification decision model was designed. The Game/No-Game Decision is taken in five consecutive decision levels.

The framework as well as the decision tree model were validated by applying all relevant elements to a pilot study which was performed on behalf of the consulting company CGI in an international IT integration program.

Gamification is a proper tool for Change Management as far as the target process is fulfilling the relevant criteria. The necessary analysis has to be performed while developing the communication strategy. Thus, an early involvement of key stakeholders and their motivational engagement in the process can be guaranteed.
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INTRODUCTION

The number of people who enjoy playing games has steadily increased over the 30 past years’ in fact, if we take a look at the United States, the largest gaming market in the world, research shows that approximately 58% of Americans play computer and video games in 2003 (ESA, 2013). The younger generation seems to be appealed even more, with 97% of boys under 18 and 94% of girls under 18 reporting to regularly play video games (McGonigal, 2011). With the growing omnipresence of social media and mobile devices in our everyday lives, even more people will have the possibility to dive into the virtual world at any time given. Furthermore, a new generation with a high affinity for new digital technologies, the so-called ‘Digital Natives’, have gained importance in our work environment. By 2018, everyone under 25 will be a Digital Native; a generation that will drive a change in behaviors, attitudes, skills and work styles (Basso, 2008, p. 3). While there are plenty of reasons why people play games, narrowing it down to one key point should focus on the fact that games involve many fun-creating elements that satisfy our basic psychological needs for competence, autonomy and relatedness founded in the Self-Determination Theory (SDT) (Ryan et. al., 2006).

The computer game industry is an extremely competitive market, prompting game designers put considerable thought into how to ‘engage’ game players and keep the games interesting. “The same incentives that inspire game players to strive for the next level in a computer game can also inspire employees to reach for a higher level of performance and engagement - if they are properly applied” (Olding, 2012). These incentives vary from game mechanics such as leaderboards, badges and levels to game design elements, including storytelling or reward programs. The use of these elements in the non-gaming context is also known as ‘Gamification’. This is being used to engage a defined audience to achieve one or more of the following objectives: change behaviors, develop skills or enable innovation (Burke, 2012). Certainly, the concept of Gamification is not new, with customer loyalty and marketing programs having used game mechanics such as points and levels for decades (e.g. Air Miles). However, most of these programs rely on simple game mechanics and extrinsic rewards. What differentiates Gamification is a comprehensive application range, the increasing sophistication of game mechanics and the increased focus on intrinsic rewards to encourage engagement (Burke, 2011).

Gartner predicts that “by 2015, 40% of Global 1000 organizations will use Gamification as the primary mechanism to transform business operations” (Olding, 2012). The growing hype around Gamification results from a desire to increase engagement among employees, bringing increased openness, visibility and a system of rewards and recognition into the workplace.
A recent study endorses this by showing that 69% of European workers are ‘not engaged’ or ‘actively disengaged’ in their work (BlessingWhite, 2013). Gamification was included in the Gartner Hype Cycles for Emerging Technologies right at the peak and, like most new trends and technologies, the initial hype creates unrealistic expectations for success and many poor applications follow (cf. Figure 1). Hence, Gartner states that by “by 2014, 80% of current gamified applications will fail to meet business objectives primarily due to poor design” (Gartner Research, 2012).

In this report, the author further states: “The focus is on the obvious game mechanics, such as points, badges and leader boards, rather than the more subtle and more important game design elements, such as balancing competition and collaboration, or defining a meaningful game economy, as a result, in many cases, organizations are simply counting points, slapping meaningless badges on activities and creating gamified applications that are simply not engaging for the target audience. Some organizations are already beginning to cast off poorly designed gamified applications”.

The presented thesis explores the application of Gamification as a tool for Change Management to allow structural change in a smooth and efficient way, being integrated to the work environment and avoiding undesirable cultural shocks.
Change Management is a structured approach that provides support to organizations, teams and individuals throughout a change process, from the current context into a new and more attractive one. The process establishes a number of stages, such as creating a vision of the need for change, developing an effective communication for the process and pointing out positive aspects to encourage motivation and engagement. The result of these efforts shall create a new culture in alignment with the company’s strategic goals.

Change Management has been used for decades as a means to become better and more efficient. While many organizations have used considerable resources for Change Management, investments in transformational change have not always led to the expected improvements. One of the essential aspects of management is to motivate the workforce. Therefore, management often fall back on extrinsic incentives to motivate their workforce, which often ends up reducing people’s intrinsic motivation to work. Hence, it is essential to re-think the traditional ways to foster engagement in Change Management.

1.1. Research Question

Gamification offers the potential for another toolkit in transformational change. By using game psychology and the principles of Gamification, it is possible to translate the traditional enthusiasm for play and social media engagement into the workplace as a basis for both succeeding with and accelerating the uptake of change. Gamification as a solution offers the opportunity for better user engagement, faster feedback of achievement and more visible progress indicators of process improvement. However, while the opportunities are broad, there will also be limitations to the application of Gamification in a transformational change. Consequently, the following research question derived:

When can Gamification be applied as a tool for Change Management?

Two intentions lie behind this question. In the first place, the research aims to determine the best point in time of when to apply Gamification in the change process. Secondly, the decision criteria for applying Gamification in the Change Management context are going to be examined.
1.2. Sub Questions

In order to conduct research in a modular fashion, the research question defined in the Introduction is split up into two sub questions. By answering these questions over the course of this thesis, it will be less complex to answer the main research question. Accordingly, the following sub research questions are defined:

1. What is the relationship between Gamification and Change Management?
2. What are the Ground Rules for applying Gamification in the Change Management context?

The theory is created by a combination of literature review and the analysis of expert interviews. In the first step, a brief introduction into the fundamentals of Gamification and Change Management will be provided by using the current literature.

Subsequently, based on the collected interview material and by means of Grounded Theory, the relationship between Change Management and Gamification will be examined in Section 4.1. The main use case will then be used further to develop a generic approach to decide whether Gamification can be used in the context of a transformational change in Section 4.2. Furthermore, identified issues with the application of Gamification will be described in Section 4.3. With the extensive knowledge gathered from the framework and ground rules, the conducted pilot study will be evaluated in Section 4.4.

1.3. Relevance

This thesis shows the relationship between Gamification and Change Management. Although introducing a Gamification environment in a company seems very interesting and helpful, there has not been much research on combining both topics to date. The research focuses on the correlation between these motivational approaches and suggests whether Gamification is a suitable tool in the context of Change Management.

Furthermore, in due consideration of both process approaches it explains the coherence in theory as well as on a process layer. Without a proper integration strategy and a particularly suited business area, the Gamification solution created might not be as effective as possible or might even fail. Therefore, the document provides a framework that maps the Gamification process onto the Change Management process. Furthermore, it provides a model to decide about the application of Gamification in change processes.

On a practical note, a Gamification pilot project for CGI was conducted. The goal was to increase the response rate and the quality of the data provided in using the existing reporting & controlling tool by increasing motivation and engagement for this administrative tasks.
The completeness and accuracy of the data in the reporting & controlling tool is key for the quality of all reports in the program (CGI internal and towards the customer), as well as the controlling of the program.

In addition to the use of Gamification in this specific program, the relevance of Gamification for Change Management in general is very interesting for CGI. Gamification should be established as a further approach for their Change Management portfolio by extending the current Business Transformation and Change Framework (BTC).

1.4. Problem Statement

Most organizations are working in dynamic environments, within which change is an inevitable part of business. Change can be experienced in many forms, such as the introduction of new policies, mergers, relocations and the implementation of new technology or a new business strategy. In order to optimize organizational performance, companies must be adept at planning, implementing and managing change on an ongoing basis. However, change is not always embraced by employees and managers with open arms. Indeed, the transition from the current state to a desired future state can often be very stressful for everyone involved.

Many individuals are hesitant to take on something new or leave something behind due to their established comfort zones or familiarity associated with jobs and job functions. Despite being vital to organizational success, companies seldom plan, implement and execute effective Change Management processes as part of their workforce management strategy. Failure to do so can severely impair a company’s performance and its very ability to compete.

Increasingly shortened change cycles in our internal and external environment make Change Management an integral part of a healthy organization. Furthermore, there is a common understanding that enterprises will eventually feel the need to do implement changes to their traditional processes, to have them adapted to the mental model governing the largest portion of their workforce (Denning, 2013). Innovative methods to overcome the pressure for change are a decisive factor to efficiently manage business transformations for all involved. Gamification offers a new creative way to tackle organizational change through fun and game-like experiences.

Gamification is the process of introducing, transforming and operating a service system with affordances for game-like experiences to support users’ overall value creation. When used in a change project where old habits need to be changed or new ones formed, Gamification can help to understand the intention of the change, support behavioral change and drive engagement.
1.5. Overview

This thesis follows a logical and structured line of argumentation chapter is introduced with a brief summary of the chapter’s content and intent. The outline is described in the following (cf. Figure 2):

1. **Introduction**: An introductory chapter, providing an overview of this document. Therefore, the problem statement, the purpose and objectives of the thesis are described.

2. **Theoretical Background**: The second chapter sheds lights on the theory of both main topics. Articles and other research are analyzed to determine the current state of the art in relation to the research question. The state of the art is determined for the three most relevant components of this thesis: Gamification, Change Management and their process layers.

3. **Methodology**: In this chapter, the methodology used throughout the thesis is described. The description is split into two parts: digression and methodical approach. In the first instance, the theoretical background of the methods is delineated. Subsequently, the methodical approach for this research is elaborated in detail.

4. **Results**: This chapter focuses deeply on analyzing the conjunction of both processes. Therefore, in the first instance the relation and possible use cases for Gamification in the Change Management context are analyzed. Afterwards, the Gamification framework is being introduced. The goal is to identify similarities and map the Gamification process onto the Change Management process. Furthermore, it presents the results in virtue of the theory formation and the theoretical background. Subsequently, ground rules for using Gamification in the Change Management context are being investigated. Conclusive, the presented results are proved by correlating the framework with the conducted pilot study. Thus, the selected structure allows first to gain an understanding of the created theory to subsequently test the results based upon a practical example.

5. **Conclusion**: The final and fifth chapter provides the final conclusion, a retro perspective view on the thesis from the author and future research questions for the adoption of Gamification as a tool for Change Management in the business environment.
Theoretical Background

After a brief overview, the following section focuses on the principles, key elements and effects of Change Management. A more detailed view on the different approaches and stages of Change Management were deliberately omitted, due to a comprehensive list of literature focusing on this topic. This social scientific approach enables subsequently a better comparison between the two main topics: Gamification and Change Management.

2.1. Change Management

2.1.1. Introduction

The capability to embrace and master continued organizational change will be what defines competitive advantage for an increasingly broader range of businesses (Gartner Research, 2011). In a time where radical change due to business needs and technology advances, modern organizational change often originates from external sources rather than internal motivation and an arbitrary approach to change simply will not work, and can have detrimental effects (McKinsey Global Institute, 2013). Underlying these change inefficiencies is the fact that many organizations simply do not understand the mechanics of change processes, or that different managerial mindsets drive different change methods (Kraus et. al. 2010, p. 15ff.). Change Management therefore describes a systematic approach of applying appropriate planning tools, and processes to effectively implement change and ensure its successful adoption. This also includes developing the necessary understanding for organizations’ stakeholders to manage the personal transition through change and overcome any challenges involved (Hiatt & Creasey, 2010, p. 45).

Despite several different approaches to Change Management and many ways of categorizing, there is consensus that the two dominant ones are the planned and emergent approaches (Cummings & Worley, 2005, p. 22ff.). The vast majority of change efforts in organizations follow today the planned approach to change, a sequential process of systematical planning, organizing and implementing change so that an organization can move from its current state to a desired future state in a short period. Planned Change is synonymous with organizational development which has its origins in the work of Kurt Lewin (1951), who is well known for his three-phase model of change: i) unfreeze the organization, ii) change it; and then iii) refreeze in the new configuration. As an alternative to the planned approach, Tsoukas & Chia (2002) offer a process-centered approach to change in which organizational change is seen as continuous and evolving.
In this emergent approach, the stimulus for change originates from the organization’s need to constantly adapt to an unpredictable and rapidly changing environment (Yuan, 2009). Furthermore, it recognizes that a number of small adjustments, which are created simultaneously across different units, can accumulate and produce significant change over a relatively long period (Weick & Quinn, 1999).

Although most change approaches and methods have their own conditions, certain similarities at a higher level can be identified. According to Kraus et al. (2010, p. 17) organizational change is conducted, it usually involves three overlapping aspects: strategy, structure and culture (cf. Figure 3). In other words: change always requires clarification of the

- Direction (strategy),
- Procedures and organizational structure (structure),
- Involvement of people in the change (culture).

![Figure 3: Strategy-Structure-Culture-Triangle (Kraus et. al, 2010)](image)

While each approach has its pros and cons, no one framework is ‘best’ in all situations (Andrews et al., 2008). It is certainly not about the actual model or theory that is decisive, but more that the approach which is used is relevant to the actual organizational needs. In fact, the best change approaches appear to use and adapt aspects of various models to suit the culture of the organization and the context of the change. Fundamentally, the purpose of Change Management is to minimize operational disruption while making change, understand the change and the associated implementation risk and align individual behavior and skills with the change.
In this thesis, no distinction is made between Transformation Management and Change Management. Change Management is the management of transformational changes. Nevertheless the focus of the discipline Change Management is more on the human and social aspects of a transformation whereas Transformation Management covers all activities in a transformational change, such as the process change, and includes the human and social aspects. This definition is reflected in the CGI Business Transformation and Change framework, which will be introduced in Section 4.2.

2.1.2. Effects

Change is conjunct with rigorous work and it is usually reactive. However, what can be proactive is how an organization copes with a change situation and how the organization initializes and integrates change on an ongoing basis (Shoptaugh, 2001, p. 61). Change carries high costs in terms of human and physical resources, share prices, stakeholder insecurity, customer satisfaction and cash flow. “The reality is often a painful period of change, during which resistance is high, morale is low, productivity is falling, and confusion is rampant.”(Calvello & Seamon, 1995). Organizations do not undertake this lightly and only the people within an organization can make planned change a reality by adapting their behaviors while being resilient to setbacks during the change process (Ashley et. al., 2010; James et. al., 2008).

There is a general understanding, that employee’s adaptive behavior is driven by their emotions (Scherer, 2005, p. 695ff.). Even change that appears to be ‘positive’ or ’rational’ involves loss and uncertainty. Nevertheless, for a number of different reasons, individuals or groups will react in their unique way to change – “from passively resisting it, to aggressively trying to undermine it, to sincerely embracing it” (Saiyadain, 2003).

The best tool for change leaders is to understand the predictable, universal sources of resistance in each situation and subsequently strategize around them. Being aware of the reasons why people resist will also help implementing change with fewer issues. These include but are not limited to a desire not to lose something of value (e.g. status/position), a misunderstanding of the change and its implications, a belief that the change does not make sense for the organization and a low tolerance for change (Kotter, 2008). It is not possible to be aware of all sources of resistance; hence, expecting that there will be resistance and being prepared to manage it reflects an essential proactive step in successful organizational change. Recognizing behaviors that indicate possible resistance will raise awareness of the need to address the concerns.
The Change Curve

There are many change models available seeking to clarify and define the process of change at a human behavior level. The most common one is the Change Curve, a model originally developed in the 1960s by Elisabeth Kübler-Ross to explain the grieving process. Since then, it has been widely utilized as a method of helping people understand their reactions to significant change or upheaval. She further proposed that this model could be applied to any dramatic life-changing situation and the Change Curve was a firm fixture in Change Management circles by the 1980s. The curve, and its associated emotions, can be used to predict how performance is likely to be affected by the announcement and subsequent implementation of a significant change. The original five stages of grief – denial, anger, bargaining, depression and acceptance – have adapted over the years. Accordingly, there are numerous adaptations of the curve in existence, although the majority is consistent in their use of the following basic emotions, which will be described briefly hereafter (cf. Figure 4).

- **Shock:** Initial reaction to change. People are typically unable to take it all in, and might find themselves in a state of disbelief. The shock is often due to lack of information, fear of the unknown or doing something wrong.

- **Denial:** After the initial shock has passed, it is common for people to experience denial. This represents a defensive reaction against change that takes the form of ignoring or not responding to information that demands a change. It attempts to preserve the success and comfort of the past by ignoring signs that the past is about to end.

- **Anger:** At this stage, an individual is still in part-denial that the change is going to take place. This is particularly true, when a change is happening to somebody; an individual at the ‘Anger’ stage feels particularly disappointed about his/her inability to influence what is happening. Quite often, an individual looks for somebody else to blame for the change that is about to occur.

- **Depression:** The lowest point of the curve is when the anger begins to wear off and the realization hit that the change is happening. Depression is possible as the impact of what has been lost is acknowledged. At this point performance is at its lowest and people have a tendency to fixate on small issues and problems.

- **Acceptance:** After the darker emotions of anger and depression, a more optimistic and enthusiastic mood begins to emerge. Eventually an individual starts to forget old attitudes or ways of working and actually begins to accept the impending change.
- **Integration**: People have accepted the change, worked with it and finally integrated it into their lives, which allows them to move forward. The old situation no longer exists, nor is it thought about much. The new regime is established and energy levels are high.

![Change Curve – Five stages of grief (Kübler-Ross, 1969)](image)

While people might move more slowly or more quickly through change, complete mastery of the change involves transition through each of the five phases, especially if the individual did not initiate the change. This does not mean that every individual will move through each phase in order. People sometimes move back to a previous phase or become stuck in one phase. Despite these different patterns, however, one must eventually reach Commitment to perform effectively within the changed organization. Eventually, it is important to be aware that the Change Curve is just a model and does not depict the reality of change and the psychological impacts on a given individual. However, it provides a concise picture with an easy, clear language that can be used to discuss change in a non-threatening, process-based manner.

### 2.1.3. Change Management Process

Over the course of the 20th century, several concepts on the subject of organizational change have been established. The efficacy of the concept is dependent on the respective situation in the company. For example, organizations which suffer from a crisis need to completely realign, whereas those with good internal structures will look for further improvements (Kraus et. al, 2010 p. 21). Business leaders must first analyze their business and show evidence of the need for change in the company as well as the change readiness of the employees. The higher the need for change in a company, the more aggressive and harder concepts are necessary for monitoring the change. The higher the readiness to change, the more integrative and employee-centered it can be (Berger et. al, 2008. p. 351).
Literature and practice offer nowadays a great variety of phase models. One of the simplest models goes back to Kurt Lewin (1947). His force-field theory is based on three phases:

I. **Unfreezing (prepare the organization for the change imitative):**
   Unfreezing is accomplished by introducing information that shows discrepancies between behaviors desired by group members and those that they currently exhibit.

II. **Moving (conduct the change):**
   It involves developing new behaviors and attitudes through changes in group structures and processes.

III. **Refreezing (establish new habits):**
   It is accomplished using supporting mechanisms that reinforce the new state, such as systems, structures and policies.

In his model, Lewin observed that any living system is always in a state of change, but that the system will tend toward some kind of 'quasi-stationary equilibrium' (Lewin, 1947). A balance of forces pushing in different directions achieves the equilibrium. The level of behavior of the system is the result of forces such as those striving to maintain the status quo (restraining forces) and those pushing for change (driving forces). In this regard, organizational change can be seen as the change of force fields. Thus, one of the essential aspects addressed by change processes is the psychological level.

Several other phase models are based upon this assumption; for instance, the procedure found by John P. Kotter, which consists of eight consecutive steps, increasing acceptance for change and hence the probability of successful change processes.

1. Establishing a sense of urgency  
2. Forming a powerful guiding coalition  
3. Creating a vision  
4. Communicating the vision  
5. Empowering others to act on the vision  
6. Planning for and creating short term wins  
7. Consolidating improvements and creating more quiet change  
8. Institutionalizing new approaches.

Single-phase models go into the content level of change processes and connect them as part of an integrated approach with the psychological level. Figure 5 illustrates such an integrative Change Management approach, whose basic methodology will be briefly explained in the following (Vahs, 2009, p. 395).
The process steps defined in the Business Transformation and Change (BTC) framework of CGI serve as foundation for the theoretical approach to a change process.

The process steps defined in the Business Transformation and Change (BTC) framework of CGI serve as foundation for the theoretical approach to a change process.

At the beginning of a transformation process, the direction and sense of the intended change need to be communicated by the top leadership using a forward-looking vision and a relevant mission statement (envisioning). In this context, it is important to operationalize the vision in form of comprehensible and realistic change objectives. Moreover, this means to understand the desired outcomes, the drivers for change and the alignment against business strategy. Based on a thorough analysis and description of the initial situation every affected person by the change needs to be informed about the strengths and weaknesses of the company’s current situation.

The resulting conclusions in the shape phase should actually wear revolutionary traits, namely individuals must recognize that a break is initiated with fundamental changes (Vahs & Weiand, 2010, p. 13). The participation of stakeholder in this change section is crucial for the acceptance of the developed measures. Still partially in the ‘unfreezing’ phase, the first personal, material and structural realization of measures for the introduction of organizational solutions is initiated. These ‘early wins’ can be specifically used for the further process as a motivational effect to communicate the meaningfulness of the change.

The actual change process follows as next step. It must be conducted in a consistent and perseverant way in order that profound and recognizable change can be felt for everyone involved. For large and complex projects, a so-called master plan is appropriate.
2.1 Change Management

It covers all the sub-projects, with their respective work packages, responsibilities start and end dates and hence is used as a supportive measure to control the change effort. In addition, human and financial resources can be prioritized and a targeted monitoring for sales controlling ensured.

This allows the use of synergy and learning effects and lays the foundations for the subsequent continuous improvement process. Further to these technical considerations, the active antecedent of change by all managers is also essential for the long-term success of the change initiative (management commitment).

In the final phase of the transformation process, it is all about completing the implementation of the changes and stabilizing the achievements. It is particularly important to ensure that managers and their employees do not fall back into old behaviors. Furthermore, the ongoing monitoring of the measures and their implementation are essential to a lasting successful change. They form the basis for the final continuous optimization process, which causes that organizations will be able continuously develop according to the situational requirements (Vahs & Weiand, 2010, p. 14).

A widely held view is that Change Management can be seen as a project-like approach. However, the demand for permanent change has been increasingly present over the past 20 years, and hence such constant changes are no longer managed in projects. Terms such as continuous integration or learning organization have emerged in this context. Such forms of Change Management are subtle and cannot be directly linked to a singular need for change. In these cases, it is more about having and remaining a healthy organization or staying flexible to detect and counteract environmental changes in the early stages (Kraus et. al, p. 20).
2.2. Gamification

Having outlined the basic foundation of Change Management, the following chapter sheds light on the dimensions of Gamification. In order to tie in with the idea of comparing both concepts, a similar scheme was selected. Hence, after introducing Gamification in further detail, the emphasis will be placed upon taking a look at the principles, key elements and the design process.

2.2.1. Introduction

Current developments have shown that Gamification has become a focal point for a growing number of companies. SAP for instance is using Gamification to increase involvement among users of its SAP Community Network site (Enterprise Gamification, 2013). Another salient example is the Credit Card provider Mint, which uses visual cues to notify users how they are doing on their specified goals, such as saving for a new car, and ranks and rewards to change customer behavior (Gamification Co, 2012). Gamification is a term originated in the digital media industry and often described as “the use of game design elements in non-game contexts” (Deterding et al., 2011, p.2). The first documented use dates back to 2002 by Nick Pelling, a British game developer who established a short-lived consultancy to create game-like interfaces for electronic devices, but the term did not see widespread adoption before the second half of 2010 (Marczewski, 2013, p. 3).

There are several similar concepts, such as ‘serious games’, which are concerned with the incorporation of non-entertainment elements into game environments (Liu et al., 2011, p. 6). The tasks are integrated into the game so that the task is accomplished (Oja & Riekki, 2012, p. 138). Furthermore, ‘play’ is a free-form activity devoid of constraints whereas games are limited in action by rules and provides contexts for actions (Juul, 2005, p. 18). In order to further delimit these concepts, Figure 6 highlights the difference between Gamification, serious games and playful interaction. It illustrates how, according to the definition provided by Deterding et al., Gamification can be separated from serious games and the design of playful interaction on the two dimensions of play/game and whole/elements. While the whole/element-axis separates games and serious games from Gamification, the play/game-axis differentiates between game-like and playful design.

**Figure 6: Classification of Gamification**  
(Deterding et. al 2011)
2.2 Gamification

Consequently, Gamification is not a game for learning purposes, but to a greater degree the application of “motivational properties of games and layers on top […] of activities, integrating the human desire to communicate and share accomplishment with goal-setting[s] to direct the attention […] and motivate to action” (Landers Callan, 2011, p. 219).

Thereby Gamification can take several forms, from the layering of basic game mechanics onto routine performance tracking, to the full integration of productive tasks into a virtual gaming environment (Reeves & Read, 2009, p. 173 ff.). This exposes a dichotomy of Gamification into two different approaches: as a surface application or in-depth revisit. In either case, the primary objective is to change behavior, enable innovation and develop employees’ skills in activities such as training and work-related tasks (Burke, 2012, p.1).

The most likely reason why Gamification has become popular in the enterprise space over the recent years, besides new emerging technologies and Generation Y result from an increased concern about the effect of employee engagement on productivity (Webb, 2013, p. 608). A recent study endorses this by showing that 69% of European workers are ‘not engaged’ or ‘actively disengaged’ in their work (Blessing White, 2013, p. 6). However, the concept of Gamification is not new. Customer loyalty and marketing programs have been using game mechanics such as points and levels for decades (e.g. Air Miles). However, while most of these programs rely on simple game mechanics and extrinsic rewards, Gamification integrates enhanced game mechanics and social media to shift rewards from extrinsic (e.g. money and promotions) to intrinsic (e.g. status and achievement). Gamification achieves this by providing a real-time-feedback loop to collect context data (what the workforce personnel did, when they did it, and which users and services it supported), and provision a feedback mechanism (a visual indicator, point, badge or trophy) to reinforce or modify the desired behaviors.

The following sections will describe the fundamentals behind the concept of Gamification. Furthermore, Gamification as the intersection of psychology and technology will be explained. Most successful Gamification programs rely to some extend on behavioral psychology. Therefore, it is necessary to understand the motivational triggers that engage individuals. On the other hand, a thorough review of what constitute the fundamental parts of Gamification is also included. There are three main purposes of this section. The first part is to provide a good overview of the subject itself and to introduce terms that will be used later in the discussion. The second purpose is to present theories that show the engaging and motivating effect of games, while the third is to establish the frame that constitutes a game that was used when designing the Gamification system. Chapter 4 will be built upon this foundation, attempting to extend it by presenting some ground rules based upon the empirical findings and incorporating the perspectives and concerns of change managers and Gamification experts.
2.2 Gamification

2.2.2. Principles

To understand why Gamification is working, it is necessary to understand the psychology aspects it relates to. Therefore, this section will explore the core principles and explain what needs to be considered in terms of truly engaging individuals. Essentially, the principles of Gamification are based around the ability to help creating and sustaining a long-term relationship. This is achieved by integrating a visually stimulating and engaging game-layer (to the application) which is designed to resonate and entice people, including the ones without traditional gaming experience.

Therefore, in the first step the thesis will take a glance at the core gaming principles, which can be found in S.M.A.R.T. Goals or Missions. After considering the roots of Gamification, in the next step, the scientific background behind motivation will be explained, to examine why we play. Furthermore, to answer the question who is playing, Bartle’s player types will be used as a foundation. To clarify, what are the reasons we feel engaged in playing will be covered by using the Self-Determination Theory (SDT).

S.M.A.R.T. Mission

In Chapter 1 it was mentioned, that Gartner predicts the failure to meet business objectives from 80% of current gamified application primarily due to poor design by 2015 (Gartner, 2013). In order to understand the potential conflict that was described, it is important to understand the essence of games. Deterding (2010) created a set of game principles that are adapted here. Good games have typically a number of features, which will be explained throughout this section.

- Games have S.M.A.R.T. goals. This acronym encapsulates that games have goals that are specific, measurable, achievable, realistic and time bound. Setting a good goal (long and short term) for a Gamification project involves understanding the current scenario, and target business outcome, and setting the conceptual progress on these goals.
- Games undermine meaningful choices by offering autonomy. If you are playing a game, you can see relatively easily what actions and choices are available. In addition, there is a clear relationship between actions/choices available and goals you are trying to achieve.
- This combination of S.M.A.R.T. goals, clear actions and choices, and obvious relationships between these three elements make games very appealing and engaging (RAMP).
- Games provide significant feedback. In a game, you receive much feedback about what you are doing, when you are successful, and when you are not. At any point, you can tell where you are in the game, given that your current status is obvious (Game Dynamics).
Games involve increasing challenges for growing skills. Most games have layers to them, where the game can become increasingly challenging as the player gets better and more skilled at the game (Player Journey/Flow).

Games generally involve a degree of social comparison. Even in games that are played as individuals, often there is an aspect of social comparison such as a leaderboard (Game Mechanics).

A simple transference of game principles to work flow is not always possible. Games are often about emotion, intensity and duration. Work, however, is about tasks, efficiency and speed. As a result, you cannot always make the goals of each come together.

Understanding Human Motivation

The ‘player’ behind any gamified system forms the root of Gamification. His motivation ultimately effects and determines the outcome. Therefore, understanding player motivation is essential to building a successfully gamified system (Zichermann & Cunningham, 2011, p. 15). In essence, there are four underlying reasons, why people play games. They can be viewed together or separately as individual motivators (Zichermann & Cunningham, 2011, p. 20):

- For mastery
- To de-stress
- To have fun
- To socialize

Fun is the very core motivator in game-play (Lazaro, 2004, p.3; Ferrara, 2012, p. 33; Radoff, 2011, p. 97). According to Lazaro, people do not actually play games for the game itself, but rather for the experiences that the game creates: an adrenaline rush, a vicarious adventure, a mental challenge; or the structure games provide. There is not simply one way to have fun. Four factors enable fun in a game (Lazzaro, 2004, p. 3ff.):

- **People fun** (Friendship): Create opportunities for player competition, cooperation, performance and spectacle. During which the player engages with other players
- **Easy fun** (Novelty): Grab attention with ambiguity, incompleteness, and detail Curiosity from exploration, role-play and creativity.
- **Hard fun** (Challenge): Emotions from meaningful challenges, by achieving a difficult goal.
- **Serious fun** (Meaning): Generate emotion with perception, thought, behavior and other people. Where the game changes the way the player feels.

In order to understand where motivation comes from it is necessary to examine existing models of motivation and behavior from the field of psychology, which will be elaborated in the next section.
The Flow State

Good video games progress through increasing levels of difficulty to balance improving player skills with more difficult challenges. One reason why games are so engaging is that players are constantly being offered a challenge that, despite being difficult, is within their capability. When choosing a gamified approach, one must carefully balance challenge and skills as player’s progress to maintain engagement. Mihály Csíkszentmihályi, a researcher on positive psychology, described the state of a person who is fully in an activity that balances skill and challenge as achieving a state of ‘flow’ (Csíkszentmihályi, 1991). As shown in Figure 7, the dynamic challenge-skill balance is the core element of the flow concept.

![Flow Zone Diagram](image)

*Figure 7: The Flow Zone (Mihály Csíkszentmihályi, 1991)*

In order to experience flow, both the challenge of the situation and the skill to meet the challenge need to be at an individually high level (Jackson, 2012, p. 127). This balance is referred as flow zone. As Figure 7 depicts, if one is above the flow channel (i.e., the skill cannot meet the challenge), it is likely that anxiety occurs. In the opposite case, the result is boredom. What matters is only the perception of the challenge and skill level, rather than the objective analysis.

Even failures are desired, because it improves the experience of mastering the challenge thereafter. Further, the challenge itself should also vary to prevent doing the same thing all over. With a person's skills improving over time, the challenge needs to increase along with the improving skills. Flow is the optimal state of intrinsic motivation, where people reach a mental state of full focus and immersion in what they are doing. This state is characterized by loss of self-awareness, a feeling of being perfectly challenged (neither bored nor overwhelmed) and a sense that time is flying (Wu, 2011).
Extrinsic vs. Intrinsic Motivation – A Self-Determination Theory Approach

A further aspect to understanding player motivation is by questioning where motivation comes from. The concept of motivation as a part of the Self-Determination Theory (SDT) is one of today’s most influential motivational theories and is divided into intrinsic and extrinsic motivation (Deci and Ryan, 2000, p. 54ff.).

Accordingly, they define intrinsic motivation as an activity one does because it is inherently interesting or enjoyable. Conversely, extrinsic motivation is elucidated as doing something because it leads to a separable outcome (Deci & Ryan, 2000, p. 55). Although this division seems to be reasonable, it is not as clear-cut as it might seem. Motivations are fluid; people can convert extrinsic motivations to intrinsic if they internalize the desire to do so. In other words, if an extrinsic motivator is found to be meaningful, pleasurable and consistent with a person’s worldview, he/she can adopt it as if it were intrinsic (Zichermann, 2012).

During his talk at the Game Developer Conference in 2010, Chris Hecker pointed to possible negative motivational effects stemming from game achievements (Hecker, 2010). In fact, literature on intrinsic motivation would seem to doom expected extrinsic rewards as being detrimental to intrinsic rewards through diminishing the individual’s perceived autonomy to carry out given activities (Deci et al. 1999, p. 627ff.). The decrease in autonomy can lead to reductions in creativity and performance and can further diminish the desirability of the given activity in the long-run. Nicole Lazarro upholds this by stating that, “In the long run, extrinsic rewards are not fun” [...]“The use of extrinsic motivation will decrease motivation to use your products and services once you remove that reward” [...]“You have to keep upping the dose to have the same motivation and change in behavior over time.” (Lazarro, 2011). On the other hand, Michael Wu argues that extrinsic motivation can be used to jumpstart intrinsic motivation. “The key realization is that Gamification doesn’t have to work long term to create sustainable value. It just has to work long enough for some other processes to take over as the primary driver of value. Subsequently, Gamification will become a secondary reinforcement system that facilitates the primary value drivers.” (Wu, 2011a). As shown above, opinions on this topic are divisive and it needs to be determined which kind of achievements and rewards are associated with intrinsic or extrinsic motivation and how they affect the gameplay experience (Hamari & Eranti, 2011, p. 2).

Referring back to the Self-Determination Theory, which has been studied and applied intensively in the context of video games, the theory can be further used as a reasonable starting point to study Gamification (Ryan et al., 2006). The Self-Determination Theory, proposed by Deci & Ryan, is a macro theory of human motivation concerning people’s inherent growth tendencies and their innate psychological needs (Deci & Ryan, 2000a).
2.2 Gamification

Intrinsic motivation is thereby the focus of this theory, likewise are several motivation theories related to games. It is a common perception that people play games as much as they do because they are intrinsically motivating (McGonigal, 2011, p. 45-46; Ferrara, 2012, p. 145; Zichermann & Cunningham, 2011, p. 26-27). According to the Self-Determination Theory, there are three core intrinsic motivations: autonomy, competence, and relatedness (Ryan et al., 2006).

- **Autonomy**: provides you with the opportunity to experience a sense of personal volition and choices that can be freely pursued. Providing opportunities to choose, using positive feedback and not controlling the instructions given to people, have been shown to improve the autonomy and, consequently, the intrinsic motivation of individuals (Ryan et al., 2006)

- **Competence**: deals with a sense of control, mastery and feeling like you are making meaningful decisions. It is communicated by immediate positive feedback in response to your actions. The factors that improve the experience of competition, such as the opportunities for acquiring new knowledge or skills, be optimally challenged (Csikszentmihalyi, 1991) or receive positive feedback, improve the perceived level of competition, and therefore it also improves intrinsic motivation.

- **Relatedness**: refers to experiencing meaningful connection to others and social interactions with them. Intrinsic motivation will be strengthened in relations that convey security, ensuring that this type of motivation appears more frequently and in a more robust way (Ryan et al., 2000a). The current integration between games and social networks is very interesting to use it as a reinforcing motivation.

Autonomy, competence, and relatedness needs can be realized by means of diverse game elements, which will be discussed in detail in the next section.

2.2.3. Key Elements

Armed with a clear understanding of the theory behind human motivation, this section will shed light on game elements (mechanics/dynamics), player types and the theory of flow in context of Gamification. The goal of this section is to provide a brief overview of the most relevant key elements, based on the research done on motivational theory and Gamification literature.

**Player Types**

One of the most important aspects of successful Gamification involves understanding what motivates individuals. People are different and experience things differently and therefore it is crucial to understand that not all Gamification techniques fit all ‘players’ equally well. For example, outgoing, competitive types might want to see how they compare to others, while more introverted, quiet types might be averse from the same mechanics.
When beginning to implement a gamified system it is beneficial to think customers and users as players. The idea of a gamified system is to make something more game-like; therefore, it is important to think about who is using it as a player. Accordingly, the focus in the design process will be more about satisfying the needs of a player rather than a customer (Radoff, 2011, p. 63ff.). Richard Bartle was one of the first researchers who analyzed the ethnography of online game players in the first MUD in 1978 (Multi-User Dungeon).

In order to understand why people play games, Richard Bartle identified four player personality types by studying those games: Achievers, Explorers, Socializers and Killers, which are shown in Figure 8 (Bartle, 1996). The player types can be defined as follows:

- **Achievers** are driven by in-game goals, usually some form of points gathering – whether points, levels or badges. They focus on getting the best result for themselves, not to show off to others. Ten percent of players are of this type.
- **Explorers** want to know everything about the game. They do not mind spending time doing repetitive tasks mind spending time doing repetitive tasks to unlock new levels of the game. Ten percent of players are of this type.
- **Socializers** play for the joy of interacting with others rather than for the game itself. The majority of players (as much as 80%) fall into this category.
- **Killers** are similar to Achievers in that they like to win points and status. However, they go one-step further and find joy in seeing others lose. Interestingly, less than 1% of players are of this type.

![Bartle's Player Types](image)

**Figure 8: Richard Bartle’s player types (1996)**

Although Bartle’s player types have been designed for Massively Multiplayer Online Role-Playing Games (MMORPG) and not in particular for Gamification (Marczewski, 2013, p. 24 ff.), these types remain a set which is easy to understand and have been well-established in the literature. Moreover, players who are motivated by extrinsic rewards are not being considered.
Extrinsic rewards are those “such as money and verbal reinforcement which are mediated outside of the person”, whereas intrinsic rewards are “mediated within the person” (Deci, 1972, p. 217). Marczewski identified this issue and hence extended Bartle’s player types by four more player types: Networkers, Exploiters, Consumers and Self Seekers in his own framework (Marczewski, 2013). Given that his framework differentiates from the initial and established player types, the four additional player types will not be considered in this thesis paper, although they can be found in the Appendix B.

In general, people are not exclusively one player type or another. Most people exhibit each player type to a certain degree. Understanding these player types will endorse the process of choosing the game mechanics that will be most appealing for the target audience and drive the desired behavior. As Brian Burke, research vice president at Gartner, said in 2012: “In many cases, organizations are simply counting points, slapping meaningless badges on activities and creating gamified applications that are simply not engaging for the target audience. Some organizations are already beginning to cast off poorly designed gamified applications” (Gartner Research, 2012).

**Game Mechanics**

There are several definitions, trying to explain what lies behind the term game mechanics. Although none can be seen as widely established, the definition of game designer Daniel Cook covers most such aspects in a concise way:

> “Game mechanics are rule-based systems that facilitate and encourage a user to explore and learn the properties of their possibility space through the use of feedback mechanics” (Cook, 2006).

They are the building blocks that can be applied and combined to gamify any non-game context and work best when they naturally tap into a user’s motivation or human desire such as reward, status, achievement, competition and self-expression. In the business context, it is crucial for companies to understand what these game techniques are, how they work and when to apply the right game technique to drive a certain action/behavior for the task (Olding, 2012a, p. 4). There is a myriad number of game mechanics, and new ones are being discovered and constructed by game designers every day, as humans can be motivated in practically infinite numbers of ways. Some of the most common game mechanics include the following:

- **Points**: Points are one of the most essential game mechanics and are part of every gamified system (Zichermann & Cunningham, 2011, p. 36). They are a visible way to reward and encourage the continuation of good behaviors, or to identify and discourage bad ones.
Points perform several functions: providing fast feedback, measuring progress and promoting employee engagement. With quick feedback, participants can know immediately if they are off to a good start or a bad start, and thus address the feedback motivational driver. Players might also be motivated by collection, eager to see their points count increase.

- **Levels and achievements**: Levels are a way of tracking progress and demonstrating mastery. They are often associated with badges to signify an achievement. This visible recognition increases engagement (as one wants to achieve the next level), demonstrates expertise and helps an individual increase his/her influence. Breaking down a process into sequential achievements creates process visibility and provides better context about how the tasks are connected.

- **Challenges and competitions**: Competition is a special form of social experience, within which progress is subjective and players are clearly ranked. There is a ‘best’ and a ‘worst’ and everyone is aware of his/her position on that scale. Many people are motivated by this urge to compete against each other. Tapping into this desire is a great way to motivate desired behavior. Setting an objective for a team or a single person enables players to challenge not only themselves, but also each other.

- **Leaderboards**: The purpose of a leaderboard is to make simple comparisons by displaying the players on a list typically ranked in descending order with the greatest number of points at the top. The possible disadvantage of a leaderboard is that it could be demotivating to a new player. For example, if player A has 100 points and is on top of the leaderboard, whereas a new player B has 10 points and is at the bottom, it is likely that player B might become demotivated and gives up playing the game. The very presence of leaderboards alone can often evoke the desire to play. The simple goal of rising up the rankings serves as a powerful motivator to continue. People like to keep score. Hence, understanding this and providing easy ways to do it is a great way to foster engagement.

It is important to note that none of the above techniques is new. However, what is new is that computer technology now allows us to harness these techniques and apply them more widely and effectively. The data coming out of operational systems can be made visible and actionable through this automation, and Gamification can be applied using technology already in use by employees, such as desktop computers, mobile devices or other web/internet systems. There is also an increased focus on intrinsic, rather than extrinsic rewards. Gamification can be distinguished from traditional contests and incentive programs by designing activities that are inherently rewarding, rather than rewarding an activity with an unrelated incentive.
Table 1 summarizes the previously described game mechanics and offers a brief guidance on when to apply a certain game technique:

<table>
<thead>
<tr>
<th>Game Technique</th>
<th>Description</th>
<th>Use When ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Points</td>
<td>A visible metric that associates value with an action</td>
<td>Rewarding an action that supports a business goal; providing immediate feedback; measuring progress</td>
</tr>
<tr>
<td>Levels and achievements</td>
<td>A cohesive series of positions, milestones or point thresholds; badges</td>
<td>Encouraging participation and continued mastery/learning; creating process visibility</td>
</tr>
<tr>
<td>Challenges and competitions</td>
<td>Events or tasks one must complete to reach individual or group goals</td>
<td>Driving participants to achieve a specific outcome while improving efficiency/effectiveness</td>
</tr>
<tr>
<td>Leaderboards</td>
<td>List how participants rank against each other</td>
<td>Promoting continuous improvement opportunities; sharing best practices</td>
</tr>
</tbody>
</table>

Table 1: Gartner (August 2012) - Gamification: The Serious Side of Games can make Work more Interesting

Although all game elements can be used in Gamification they might not all be equally relevant. Some are more potent and useful than others. This is not to say that the other elements are not useful or used in gamified systems. These are just the most commonly used elements derived from the literature. Despite the great variety, game mechanics are not always sufficient to attract everyone. Every person is different and hence motivated by different things in many different ways. Game mechanics that work well for some might work poorly for other. Moreover, people get bored with routines after a while, but designers use game dynamics to counteract repetition and boredom (Wu, 2011).

**Game Dynamics**

Therefore, game dynamics are linked with game mechanics in the elaboration of every gamified activity. Given that there is a slight distinction between game mechanics and game dynamics, it is important to identify the difference between these two terms.

“*Gaming dynamics are temporal evolution and patterns of both the game and the players that make the game (or any gamified activity) more enjoyable.*” (Wu, 2011b)

Points, Badges and Leaderboards and so on are game mechanics and their aim is to drive motivational behavior. On the other hand, the reward schedule during the journey of a player in the game and the certain moment where these badges or achievements are unlocked are handled through game mechanics. Game dynamics are created by combining various game mechanics over time to make game play more interesting and engaging (Wu, 2011b).
One of the simplest is the player’s level journey: novice – expert – master, which was adapted by Amy Jo Kim to fit the Gamification context. Kim suggests using different approaches to meet the player’s needs. Novices need to be introduced into the new environment (onboarding), experts look for fresh content, activities and challenges, while masters seek for recognition and impact (Kim, 2011). Thus, well-designed game dynamics focus on helping the player to progress to the next stage, at the right moment and evoke a feeling of accomplishment. On the other hand, poor game dynamics let players feel either anxious, due to a too complex challenge or bored if there is not a challenge and therefore making the game less engaging (Wu, 2011b).

The balance between challenge and skill also leads back to Mihály Csíkszentmihályi’s flow theory, described earlier in this section. Andrzej Marczewski illustrated this coherence, which can be seen in Figure 9.

![Figure 9: Flow Zone and the Player’s Journey (Marczewski 2012)](image)

### 2.2.4. Gamification Design Process

Similar to the Change Management process, the Gamification design process is an agile process that does not always follow a specific design framework but moreover is based upon customer needs. Given that Gamification is a relatively new subject, existing literature does not offer well-established frameworks. However, several frameworks have derived from other related backgrounds (e.g. game design, motivational theory etc.). As a result, this thesis will focus on the two most common design frameworks used for Gamification.

First, the approach of Player Centered Design by Mario Herger and Janaki Kumar is introduced. The five-step process is based on a well-established design philosophy called User Centered Design (UCD), yet extends beyond this by incorporating meaningful engagement and behavior change.
2.2 Gamification

The framework is used as an iterative and adaptive approach to Gamification without a series of rigid and uni-directional steps (Herger & Kumar, 2013, p. 31). However, a designated order of process steps is suggested. The process proceeds by gaining an understanding of both the player and the mission, followed by research on psychological motivation. Based on this foundation, the application of game mechanics is advocated. In the last step, the applied mechanics need to be closely monitored, the results measured and eventual adaptions managed. All aspects revolve around making a process user-oriented, more engaging and adding some kind of fun to it (Herger & Kumar, 2013, p. 39-104).

The second design process is proposed by Kevin Werbach and involves six consequential steps (D6). The D6-model has the following six steps: Define business objectives, delineate target behaviors, describe your players, devise activity loops, don’t forget the fun and deploy appropriate tools. The design framework includes emotional concepts such as fun, play and user experience, as well as measurable/sustainable systems to serve concrete business objectives (Werbach & Hunter, 2012, 86). The framework focuses on giving guidance on how to map the available tools (game elements) onto a specific situation. It is not the case that any elements applied to any system create a positive effect. Only the correct use of right elements leads to success (Werbach & Hunter, 2012, p. 99-101). This is why the first five steps revolve around that issue.

As we compare both of these processes, similarities can be identified. For instance, both emphasize end user understanding, meaningfulness, behavior change and iterations. However, if we take a closer look at both frameworks, they are not truly designated business processes but rather design guidelines. In order to make a comparison between Change Management and Gamification to subsequently determine when Gamification can be used as a tool for Change Management, it is necessary to define a Gamification process on a project management level. Therefore based on the design frameworks of Kevin Werbach and Mario Herger & Janaki Kumar’s’ approach of Player Centered Design the following Gamification process is defined and briefly explained hereafter (cf. Figure10).

![Figure 10: Generic Gamification process on a project management level (adapted from Werbach & Hunter, 2012)](image)

The first three steps can be directly borrowed from Kevin Werbach’s design framework. This is due to the fact that these initial process steps are very similar to approaches in the area of project management.
Given that the main purpose of Gamification is to achieve business goals, it is crucial to have a good understanding of these goals at the very beginning. Even when effective, Gamification can produce results that don’t necessarily help. Therefore in the first process step the business objectives are defined. After that, the system will be created to specifically address such objectives.

The next step is to delineate target behaviors. Werbach & Hunter (2012, p. 89) propose that you should define what you want your customers to do and how to measure that behavior. The target behavior should be as specific as possible and should promote business objectives, although the relationship might be indirect (Werbach & Hunter, 2012, p. 89-90). The metrics should provide feedback to the player in some fashion, letting them know when they are successfully engaging in the intended behavior.

The third step in the framework is to describe the players. By knowing what type of player will be using the system, it is possible to create a system that will appeal to them (Werbach & Hunter, 2012, p. 91-93). Bartle’s player type model presented in Section 2.2.3 can be used in this step to describe the players (Werbach & Hunter, 2012, 92).

Afterwards, the game design is being developed. This comprises among other things the description of rules, feedback, game elements or characteristics of the gamified activity. Therefore the approach of Player Centered Design (Mario Herger & Kumar, 2013, p. 33), which puts the user at the center of the design and development process can be suggested. The aim is that users always know when they do something good and get immediate feedback to prove it. However, it is not enough to get feedback, because that will not tell the user whether or not he/she is advancing. Due to this progression, loops are needed. Progression loops can offer a perspective on the player's journey on a macro level (cf. Section 2.2.3). They give the impression that the experience changes as users move through it. That is usually achieved with escalating levels of challenge and difficulty. Essentially, this process step includes all the design thinking necessary to create a first prototype and start implementation afterwards.

Constant monitoring of feedback and metrics will subsequently be required to ensure that a gamified system continues to work as planned (Zichermann & Cunningham, 2011, p. 73). With the aid of this more generic approach to Gamification, it is now possible to compare Gamification and Change Management in the next chapter.
The aim of the following chapter is to provide a brief yet thoughtful overview of the methods that guided and structured the research process. It displays a detailed picture of its implications to structure and analyzes the gathered, empirical data of the semi-structured expert interviews. It is based on the application of Grounded Theory as described in Keith F. Punch: ‘Introduction to Social Research – Quantitative and Qualitative Approaches.’

3.1. Digression: Methodical Fundamentals

Grounded Theory

In contrast to other qualitative research approaches, Grounded Theory has to be understood as an approach, method and strategy with the rationale of generating hypotheses from the gathered data. ‘Grounded’ means that the derived hypothesis is generated based upon the data. ‘Theory’ relates to the aim of the approach to collect data towards generating a theory. Accordingly, the essential idea of applying the Grounded Theory approach is to develop the theory inductively from the interviews. Therefore, no hypothesis was formulated in advance to be tested. Additionally, the research did not start with a theory from which it deduced hypotheses to be tested. As designated by Grounded Theory, “the researcher starts with an open mind, aiming to end up with a theory” (Punch, 2005, p. 157). The only guidance that took place was by the initial research questions, which were rooted in the concepts depicted in Section 1.1. At that point, the inquiry of the data began, using the procedures described in the next section.

In order to achieve theoretical saturation, a second set of data has to be collected after the analysis of the first set. The directions that emerged out of the first set subsequently guides this second collection of data. This data-collection/data-analysis loop has to be continued until a theoretical saturation is achieved (cf. Figure 11). Due to the scope of this bachelor thesis, only one loop was conducted. The rationale for applying the Grounded Theory approach in this study was that there is no satisfactory theory on Gamification in the context of Change Management and additionally due to its ability to provide further structure to the relatively new and unknown terrain of research.
3.1 Digression: Methodical Fundamentals

Semi-structured expert interviews

Semi-structured interviews with experts were the primary data collection method. The interview method distinguishes oneself with a structure but also allows flexibility in the order of questions, as well as allowing for possible extra questions (Wilson, 2010, p. 147). The designated experts are persons with extensive knowledge in a particular area of study relevant for this thesis. The interviews were done specifically for the purposes of this research and conducted directly by the researcher himself. The sample size was relatively small but detailed qualitative interviews work better with fewer people (Arksey & Knight, 1999, p.34). Interviews allow the researcher to gain insight into the thought process of the person interviewed and gain large amounts of data on a single topic (Wilson, 2010, p. 138). In order to understand the interviewee’s understanding, viewpoint and perspective of the reality – within the limited resource-framework of this thesis, the most common type of interviewing has been chosen: individual, face-to-face, verbal exchange. The concept of applying verbal, face-to-face, semi-standardized, semi-structured interviews is not only applied to produce data for the subsequent academic analysis, but also to minimize status differences between the interviewer and the interviewee, thus developing a more equal relationship based on trust. Including both self-disclosure by the researcher as well as reciprocity, the interviewer and the interviewee become co-creators of the data through the interview.

Theoretical coding

For the evaluation of the interview results Flick (2009) describes four different procedures. A distinction is made between the theoretical coding, the thematic coding, the qualitative content analysis and the global analysis. The presented thesis used the theoretical coding by Strauss and Corbin (1996) as data evaluation procedure. The methodology was developed in conjunction with Grounded Theory. Below, the envisaged procedure is briefly explained.
The theoretical coding aims to derive a theory from the collected data. Therefore, it is necessary to successfully integrate the large set of grounded data into a smaller set of more abstract concepts and categories (Strauss and Corbin 1996, p 39). This process is called coding. The theoretical coding is divided into open, axial and selective coding. However, these are not clear separable steps. Each process can be combined and recessive steps applied. Hereafter, the three coding steps that are based on Strauss and Corbin (1996) will be briefly elucidated.

Open coding refers to the initial interpretive process by which raw research data is first systematically analyzed and conceptually categorized. Thus, the core concept is grounded in the initial data (Punch, 2005). The aim of open coding is to work out the substance of an interview, structure it and gain a better understanding of the content. In this regard, the interview protocol is segmented into coherent units. These are provided with meaningful notions (codes). Thus, the interview statements are succinctly summarized into concepts. Similar concepts are consequently assigned to a derived category. For this purpose, the concepts are continuously compared with each other. During the further progression, superordinate categories might eventually be formed, before each category then is assigned properties with certain dimensions. As an illustration Strauss and Corbin (1996, p. 51) name the category ‘color’. For instance, intensity and color hue can here be assigned. Each color is subsequently dimensioned and hence the intensity can vary from low to high.

The second step of Grounded Theory analysis (axial coding) involves the aim of defining the main categories that emerged from the open-coding process in the first step. Clustering the substantive codes and interconnecting them created conceptual categories of a set of theoretical codes. Strauss and Corbin (1996) argue that comparing concepts along these dimensions enables the researcher to identify key patterns and features of the concepts, further enlarging their understanding of these. Thus, axial coding relates the categories that open coding developed back together again, albeit in conceptually different ways. As a result, the conceptual categories took the data to a higher level of abstraction.

The aim of the third and last step (selective coding) of the data analysis is to thoughtfully deduct abstract core categories (phenomenon). Once this has been completed, the theoretical analysis and advancement of the data is delimited to those parts of the data that relate to these core categories (Punch, 2005). For Glaser, these core categories emerge from the constant comparisons that drove the earlier coding processes. The final objective thereof is to derive a theory; for instance, a statement is made about which conditions the central phenomenon evokes.
3.2. Methodical Approach

As described in the previous section, the aim of this research is to gain a deep insight and understanding into the phenomenon studied. Accordingly, qualitative methods such as interviews are well suited for this goal. By choosing a qualitative research strategy, the choice is made to pursue understanding rather than numerical analysis. Qualitative strategy is chosen because it can provide a new way to understand the phenomenon studied. Hereinafter, the methodical approach to answer the research question is explained.

Objective

The aim of this research was to determine when Gamification can be used as a suitable tool for Change Management. Therefore, an interpretation of the question was given in the first place. This was provided to avoid any misunderstandings and to state clear intentions beforehand. Moreover, the research question was divided into sub-questions in the first step. By answering these questions over the course of this thesis, it became less complex to answer the main research question. Furthermore, specific parameters where set to limit the scope and ensure the thesis will lead to the desired result. The process steps defined in the Business Transformation and Change (BTC) framework of CGI served as foundation for the theoretical approach to a change process. Given that existing literature does not offer the principles for comparing Change Management with Gamification, it was necessary to design a business process for Gamification in the first place. While the detailed description of these defined process steps was deliberately omitted due to set focus, since it is only an approximation of Kevin Werbach's design framework, the detailed description of each step can be inferred from the literature.

The aim was not to develop a quantitatively representative result that allowed a general statement for every consulting company in the field of Change Management. For this reason, a qualitative research approach was chosen. Therefore, the qualitative approach of Grounded Theory according to Strauss and Corbin (1996) was applied. The advantages for Grounded Theory include its capacity for a detailed study of a micro issue of a larger reality within a particular setting (Glaser & Strauss, 1967). In this way, the study has potential to develop detailed information about a particular phenomenon and to be influenced by the context in which the study was undertaken. The pragmatic and flexible approach of Grounded Theory allowed detecting unheeded and new aspects in this particular area. Given that no literature could be found concerning the combination of these two areas of study, it was possible to get new and unbiased findings as stipulated by Strauss and Corbin (1996, p. 31ff.).

The data were collected by means of expert interviews according to Flick (2009). For this purpose, experts with background knowledge in both areas of studies had to be found and chosen. Grounded Theory usually includes theoretical sampling. Due to the duration of thesis as well as the limited resources, the decision was made to abdicate this sub step.
Interview preparation

On the one hand, existing business relations were used to contact potential interview partners. On the other hand, interviewees were ascertained and contacted by visiting Gamification conventions and relevant company websites. The expert interviews were carried out with a semi-structured interview guideline. This type structures and focuses the interview, while also allowing it to be responsive to the answers of interviewees. Due to the different perspectives, individual interview guidelines for change managers and Gamification experts were created (see Appendix A). With the help of approximately twelve open questions criteria, application areas and the relationship between Gamification and Change Management were determined. Therefore, the guideline was divided into the areas ‘Introduction’, ‘Change Management’, ‘Gamification in the context of Change Management’ and ‘Other Aspects’. Besides descriptive questions, the interview mainly used explanatory stimuli for the guideline. Thus, the interviewee could describe his own experience and perspectives on a specific issue. Concluding, explicit room for further thoughts on the discussed subject was given. In this way, aspects that had not been considered in the guideline could be uncovered. Consequently, the interview guideline has been continuously advanced.

In preparation for the interviews, an internet research about the interlocutor as well as the corresponding company was conducted. At best, first information in connection with the subject of investigation could be collected. This preparation allowed it to ask more accurate and in detail question. With the help of a semi-structured guideline six interviews were conducted from 01.12.2013 to 14.01.2014. If possible, the conversations took place at the expert on site. Due to geographical differences, two interviews had to be conducted via Skype. Each interview was allocated a time frame of around 45 to 60 minutes. Conclusive, two further conversations took place with an expert from each area of studies to discuss the research findings. The goal was to eventually capture unobserved aspects, as well as testing the created theory construct. Obtaining feedback to the collected research findings is known from the Delphi method (Linstone & Turoff, 1975).

Data Evaluation

In each instance the interviews were simultaneously recorded on audio tape as well as extensive notes were taken. Thus, an accurate representation of the dialogue of the interview was created while not interrupting the narrative flow of the conversation partner. However, it was abstained to transcript the interviews due to the limited time frame. Additionally, the technique of memoing was crucial, which included the researcher quickly and spontaneously writing down ideas that captured the initially elusive and shifting connections within the data. Conclusive, saturation occurred when all levels of coding had reached the point when no new conceptual information was available that indicated new insights or the expansion of existing ones.
When all the data fitted into the established categories, causal relations were visible, dependencies could be detected and eventually processes could be illustrated. By repeatedly checking and asking questions of the data, the researcher ultimately achieved a sense of closure. In order to support data analysis in research area, special software solutions have been designed. In this way, qualitative data can be managed, sorted and interpreted in a more professional fashion, with Atlas.ti (Friese, 2013) or NVivo (QSR International, 2013) serving as relevant examples. Due to the limited period of vocational adjustment and the natural time limit of a bachelor thesis, Microsoft Excel was used as the primary source to evaluate the gathered data.
RESULTS

Hereinafter, the interview results of the study will be described. Initially, the relationship between Change Management and Gamification is examined in more detail (cf. Section 4.1). Subsequently, this created theory framework is defined on this basis. The framework is divided into two interdependent parts. Firstly, the Gamification process is mapped onto the Change Management process as a result to determine when Gamification can be used as a tool for Change Management (cf. Section 4.2). Moreover, the prior established process phase will be used further as initial situation for the created decision tree to specify decision criteria. Thus, the framework in Section 4.2 describes when Gamification can be used as a tool for Change Management and the internal preconditions involved. Afterwards, the ground rules are delineated which must be considered when applying Gamification in the business context (cf. Section 4.3). Conclusive of this chapter, the conducted pilot study is introduced in Section 4.4 to verify the created theories in a real business environment.

4.1. Relationship

In Chapter 2, the theoretical background of both areas of study were separately introduced by means of literature research. Based on the interview results, this section will now deeply focus on the relationship between Gamification and Change Management. The intention of this paragraph is to provide an answer to the first defined sub-question: *What is the relationship between Gamification and Change Management?* and thus lay the foundation for the created framework. By means of semi-structured expert interviews and open coding three possible use cases could be identified.

1. Gamification as an element of Change Management in order to improve the success and the acceptance of the change.
2. Change Management as the foundation for successfully introducing and sustaining Gamification in the enterprise.
3. Gamification as a mean to increase the acceptance of Change Management

The theory that has been suggested by literature to some extent was eventually confirmed by the interview results. Gamification is perceived by both expert groups as a tool for Change Management that can increase the chances of success and the acceptance of the change, respectively. When considering the intentions behind these two area of studies, synergy effects can be clearly seen.
Thereby, Change Management provides the larger frame and describes a systematic approach applying appropriate planning tools and processes to effectively implement far-reaching change and ensure its successful adoption. Gamification as a quid pro quo is the process of introducing, transforming and operating a service system with affordances for game-like experiences to support users’ overall value creation. In other words, Gamification can help to understand the change intention and support behavioral change when change occurs and old habits need to be changed or new ones formed.

Thus, as a logical conclusion, Change Management provides the foundation for successfully introducing and Gamification on a long term. Beside the aforementioned use cases, there was one further benefit of Change Management in the Gamification context identified. Despite the heightened awareness of the criticality of Change Management, many organizations continue to struggle with the willingness to spend financial resources on Change Management measures. Consequently, Gamification can also serve as a mean to increase the acceptance of Change Management in general, given that the effects of the change approach can be made visible by measuring the user behavior. Gartner supports this assumption by predicting that by 2015 40% of global 1000 organizations will use Gamification as the primary mechanism to transform business operations. Technology Analyst Brian Burke further states: “We see Gamification being leveraged for Change Management”. That is not to say that Gamification is a tool only used to collect user data. The data collection is a beneficial side effect for organizations but should not be the primarily reason to use Gamification.

The conjunction and mapping of these two processes will be introduced in the upcoming Section 4.2. The following case studies substantiate the statements made about the relationship between Gamification and Change Management:

**Gamification example: Banco Bilbao Vizcaya Argentaria (BBVA) Game**

The Spanish bank BBVA created a game to encourage customers to use their online banking services. Players are rewarded for completing challenges designed to educate them about using online services. Once players have accumulated points, they can exchange them for a variety of direct prizes, or alternatively use the points to "purchase" tickets in lotteries for larger prizes. The benefits to the customers are the incentives and rewards provided for understanding how to use online services, while the benefits for BBVA are the cost reductions realized when customers choose to use online services rather than teller services.

BBVA Game has attracted 110,000 users during the first six months, 50% of which are through referrals. The business results are a 5% increase in Web-banking users and a 3% conversion rate of players becoming new BBVA customers (BBVA press room, 2013).
Best Practice: Ensure Gamification aligns with the goals of the individuals as well as the goals of the organization.

Gamification example: NTT Data: Socially

NTT Data wanted to break down the knowledge barrier between programmers and built therefore an internal social network called Socially. When the company first launched Socially, only 400 of the 7,000 employees joined the networking platform. The CTO decided to incorporate “karma points” for logging in, posting content and performing other activities on the platform. Each month, the person with the highest score could earn a prize. This resulted in increased participation of up to 4,000 employees. The collaboration that Gamification helped to stimulate has prompted the company to create two new centers of excellence developing new products. The centers have generated about $5 million in new services, bearing in mind that the company spent about $1 million developing the new Gamification practice and $200,000 to $300,000 to build Socially.

Best Practice: Extrinsic rewards can help to jumpstart intrinsic motivation. Although intrinsic rewards such as recognition or autonomy are more effective motivators in the long-term.

4.2. Framework

Based on the empirical findings regarding the relationship between Gamification and Change Management, the created framework will be covered below. This section has two intentions: first, to determine the best point in time when to apply Gamification in the change process; and second, to examine the decision criteria for applying Gamification in the Change Management context. For this purpose, each sub-process of the framework is introduced and explained separately. Subsequently, the Gamification process is mapped on the Change Management process to define a starting point for the decision model.

Change Management process and BTC Framework:

The process steps defined in the Business Transformation and Change (BTC) framework of CGI served as the foundation for the theoretical approach to a change process. The transformation framework consists of four phases that span the entire business transformation lifecycle, from initial analysis through the post implementation stage (cf. Figure 12).

The Business Transformation activities associated with the transition from a Current to a Future State are defined and managed through six streams of activity.
These are split into three Transformation Enablers (Transformation Program Strategy & Governance, Business Benefits Management, and Communication & Stakeholder Engagement) and three streams of Business Transformation (Organization & Workforce Changes, Business Process Changes and IT & IS Changes).

Furthermore, each stream of activity offers also a variety of methods depending on the phase of the change project. A detailed description combined with further theoretical knowledge about the Change Management phases can be found in Section 2.1.3. Due to the level of complexity of this framework, the associated methods have been removed.

Gamification Process

As already elaborated in Section 2.2.4, in order to make a comparison between Change Management and Gamification to subsequently determine when Gamification can be used as a tool for Change Management, it was necessary to define a Gamification process on a project management level. Therefore based on the design frameworks of Kevin Werbach and Mario Herger the following Gamification process was defined.
Mapping Gamification onto the Change Management Process:

After having presented both processes separately, i.e. Gamification and Change Management process, as a next step, we will intend to map them onto each other. This mapping approach will focus on what was identified at the beginning of Section 4.1 as their main application, namely using Gamification as an element of Change Management to improve the prospects of success or rather the assumptions on change.

By means of semi-structured expert interviews, we could find out that at the beginning of each Gamification project traditional change- or rather project management is used. This is why the text boxes illustrating the first two steps in the Gamification process (cf. Figure 13) are edged by a dotted line. In this way, the actual Gamification process just starts afterwards, i.e. in the shape phase, with the description of the players and the development of the game’s design. Theoretically, we could have linked these two phases to each other as the description of the players forms also part of the game’s design. Nevertheless, we deliberately decided against this solution because the focus here is on the stakeholder and his or her needs. This essential basic approach of Gamification could thus be highlighted.

Furthermore, and by open coding, we could discover in the next step that Gamification requires an involvement of the employees in the process as early as possible. This is also due to the fact that hereby frictional losses caused by the transformation can be better anticipated and reduced. At the same time, the strategic process development can thus be significantly simplified and made more practically-oriented thanks to the input from the employees.

With these findings in mind, and by referring to the BTC framework, on which the Change Management process is based, we were able to identify the corresponding activity stream in the framework of CGI. Thereby, we found out that Gamification is a transformation enabler that is working on the meta-level. Gamification is the combination of motivational psychology and technology, with the first being decisive for the long-term success of the approach. After the above-mentioned stream had been identified, we had to determine the relevant activity next. At the beginning, for sure, each change project is the same.
So, first of all, the consequences of requirement changes have to be analyzed and evaluated by a change impact analysis (CIA). The aim of this procedure is, first, to gain an understanding of the scale of change, second, to define specific areas that need management support and, third, to assess the impact on the stakeholder groups. In parallel, a stakeholder analysis is conducted to identify the most important interest groups in the change project. Besides, these groups’ interests concerning the change process will be delineated. Subsequently, a strategy for Communication & Stakeholder Engagement will be developed because this area is especially crucial when it comes to introducing and accepting new processes. Communication & Stakeholder Engagement essentially means all activities where stakeholders with their specific views and interests are involved systematically and for the longer term into the company’s business- and decision-making processes concerning a specific topic. Moreover, it is also about reflecting and integrating the stakeholders’ suggestions, expectations and needs as much as possible into the company’s processes. Communication & Stakeholder Engagement could thus be identified as a valuable starting point to judge whether Gamification is the right instrument for the Change Management (cf. Figure 14).

On the whole, a good communication with the stakeholders and their involvement can contribute to more transparent decision-making, a better support for challenging planning requirements and can help to avoid conflict situations.
The following illustration combines these two findings with each other. Consequently, the decision point that determines whether Gamification can be used as an instrument for Change Management is placed in the vision phase, where the communication & involvement strategy is developed (cf. Figure 15).

![Decision Model for Gamification](image)

**Figure 15: Mapping Gamification onto Change Management with Game Decision**

In the following, we will start with this decision point and examine more closely the factors that are relevant in the decision-making process (Game/No-Game decision).

**Decision Model for Gamification:**

In order to clarify the decision-making process, and using the results from the interviews, we first identified general parameters. As a next step, these were arranged in a logical order within a process model. Ultimately, after a final consultation with two experts, a generic decision model could be developed (cf. Figure 16).

This model focuses precisely on the above-mentioned decision point and is described in detail below. For this purpose, we will start with a rough description of the general procedure of decision-making. Afterwards, each level will be looked at separately and potential interactions will be explained.

At the beginning of the decision model, we will examine whether the process or rather the technical circumstances involved are flawless. During the interviews with the experts on Gamification it often came into play that companies tend to decide for a Gamification approach without having questioned the process itself before. Gamification, however, is an instrument that comes from the branch of motivational psychology and can only realize its full effect if the fundamentals of the process are flawless. Subsequently, it must be ensured that we are dealing with a process that is clearly defined and possesses neatly determinable and separable workflows.
Next, if these two characteristics of processes are given, it is necessary to become aware of the methodological approach of the method used. In the case of Gamification, the focus is on the user and his or her needs. This should also be reflected in the process approach in order to avoid friction losses. Furthermore, it should be reviewed, whether it is possible to give the user feedback on his or her performance to thus be able to show him or her, among others, his or her progress. In the next step, the task needs to be classified whether it’s a cognitive, repetitive or creative task. Each type of task requires its own approach, thus is also connected with different implementation and maintenance efforts. Therefore, for the final Game/No-Game decision the cost-benefit ratio needs to be taken into account.

**Flawless vs. Flawed Processes**

The fundamental requirement to perform any kind of process optimization or restructuring is that the process itself is flawless. The field reports of the experts showed, however, that in case of a flawed process many companies tend to blame it onto their employees. There are certainly examples where this is the true, however, in other cases it is the process itself that has not been thought through accurately. If here one tries to work with a motivational approach like Gamification, one might be able to observe some improvement in the short-term but the expected long-lasting success will not be obtained.
The technical requirements as well as a clear process logic thus determine decisively the process quality and, thereby, also the work quality. The transition illustrated in the diagram (cf. Figure 16) is designed to demonstrate that in any change project that contains a flawed process it is obligatory to first analyze the original process and – in the event of any discrepancies – to carry out process optimization primarily.

**Defined vs. Indeterminate Processes**

When implementing Gamification, it is crucial to first agree upon a neatly defined process with clear-cut activities. By doing so, it is easier, on the one hand, to measure results and, on the other hand, this is fully in line with the implementation. Besides, in the case of Gamification, one should generally opt for a bottom-up approach that gives an opportunity to the employees affected to suggest improvement possibilities and to provide impetuses to the project. Moreover, bottom-up processes influence the corporate culture and can be used to establish a culture of dialogue, mutual understanding and shared learning. If a process is fully implemented and established, the natural boundaries of the formerly delimited process can be expanded by extending it to other levels. This iterative procedure is necessary as Gamification requires a high degree of adaptation. What is functioning flawlessly in one area may lead to problems in the next one. Besides, it is easier to measure the efficiency of the action in the case of a successfully implemented process in a clearly defined area.

**Human Focused vs. Activity Focused Approaches**

When we differentiate between *human focused* and *activity focused*, we refer to two different approaches to the process. Human focused means, in this context, that the process is geared towards the people, although, in the end, the result should serve the company. In other words, here, the needs of the persons are brought into focus, just as required in the case of an approach like Gamification. The result or the success, thus, in the end depends on the person involved in the process. Especially with cognitive activities it is essential to choose a human focused approach as cognitive tasks are carried out on the basis of the person’s own motivation and his or her correlated self-assessment. Hence, in order to motivate a person over the long-term with respect to a cognitive task, it is necessary to understand the person’s expectations and to create goal orientation by establishing new incentives as part of the process.

Whereas the human focused approach makes a person with his or her human concerns the starting point of design- and planning processes, the activity focused approach rather works across target groups. Thus, the business process and the activities to be undertaken are moved into the spotlight. By logically interpreting the process-owners, all required tasks are derived and determined. This approach is especially known from the age of industrialization, when it came to structuring complicated processes and to organizing them as efficiently as possible.
This approach is based on the insight that people can adapt more quickly to new circumstances than the circumstances can be adapted to people’s needs. As a consequence, particularly repetitive tasks are associated with an activity focused approach. By assigning certain activities to one specific approach, however, we just wanted to underline that they are more appropriate for this approach than others. We did not want under any circumstances whatever to exclude hereby other types of activities.

An interesting thought that came up in the course of the concluding discussion on the decision model was that Gamification is able to evoke a paradigm shift. Gamification thus should make it possible to turn a previously activity focused process into a human focused approach (cf. Figure 16). A possible example hereof would be the area of reporting. For instance, we can completely base a reporting on the process so that by means of certain rules and sanctions that take effect in the case of non-implementation, we can assure that the desired result is achieved. On the other side, it would be possible to work with a Gamification approach, where the employee is motivated to report by intrinsic motivation.

**Feedback Possible vs. No Feedback**

Feedback is a critical factor for the success of Gamification. And feedback is, in general, a fundamental component of each gamified system. So, feedback-mechanisms can adopt different forms. Classical and obvious ones are points, leaderboards, progress bars or popup notifications. What all of these elements share, however, is that they break down a system or process in smaller sections. Alternatively, there are feedback-mechanisms that are not visible at first sight as they work on a psychological level, such as recognition and status. Besides, and apart from these options, games are fun because they provide a certain amount of competence, self-esteem, power and proficiency to the player.

On a meta-level feedback is related to informational transparency and thus to the player journey, which has been explained already in the theoretical part of this thesis. On this journey, one receives the right amount of information, clear objectives and, thus, orientation and guidance proportionate to one’s skills. So, on the basis of the received feedback one can measure, for instance, one’s own progress. This is valuable from two perspectives: On the one hand, the participants benefit from this mechanism as they always know how their personal progress is going. Thereby, the process gains in importance and captivates the user making him or her improve his or her performance. Companies, on the other hand, can use the collected data to demonstrate the efficiency of the measure and, all in all, to gain a wider acceptance.
Different types of tasks

On the last level of the decision tree, the type of task is decided upon. Here, in this model, a distinction between repetitive, cognitive and creative tasks is made (cf. Figure 16). As a matter of principle, this kind of allocation does not comply entirely with reality as there are only few tasks that can be classified as one type of task. Most often a task consists of a mixture of these types. Thus, a task can be, for example, cognitive and repetitive at the same time. So, if in this model we talk about a ‘cognitive’ task, we refer to the predominant part of the activity. A worker who assembles pieces on a production line, for instance, is mainly carrying out repetitive work. Nevertheless, he is also part of a complex production system and must work in full compliance with certain regulations, which is part of the cognitive side of the work. Especially if one starts a new activity, each labor goes hand-in-hand with a learning effect and implies, therefore, a cognitive task.

If we try to gamify a repetitive task where people involved are inherently not highly motivated, both intrinsic and extrinsic motivation can have a positive effect. Especially for mid or long term tasks a strong focus on the intrinsic motivation is preferable. In the case of repetitive tasks, the applicability of the player journey and the related path to mastery is rather limited. As a consequence, here, factors like dignity, meaning und autonomy must be firmly rooted in the activity itself. This means that persons at a higher hierarchical level must not appear to be condescending. It is rather required to appreciate the work carried out by the people with reward and recognition. Furthermore, the awareness for the importance of the activity must be raised. Besides, when talking about ‘autonomy’, we refer to the aspect that during the process one should have a certain degree of freedom in decision-making and not be bound to a strict procedure.

The advantage of cognitive tasks and, at the same time, the reason why they can be more easily gamified in comparison to repetitive tasks, is their permanent learning effect. If we look at the previous solutions in the area of Gamification, we are largely dealing with feedback-platforms that support the learning process. What Gamification is about is, in the end, usually an artificially created problem that has to be solved according to certain rules. If, however, the solution is too simple, the task is getting boring and one stops ‘playing’ or rather being motivated. This means that a learning effect must always be part of the gamified solution. Consequently, Gamification is becoming more and more popular in the areas of knowledge management or HR.

Especially when carrying out a challenging task i.e. cognitive or creative, it is crucial to create a defined process which gives guidance on how to reach the designated goal and further to illuminate the progress made so far. Giving the right amount of feedback at the right time is essential to make room for improvements. Success may not always be guaranteed, however it is more important to show that the process brings users closer to accomplish one´s object.
A defined process which rewards users for good contributions can encourage users themselves to improve and expand their knowledge. Thus, creating a learning process for a vague task. Further, this also requires a certain company culture which encourages margin of error. Consequently, with the application of Gamification the process design and company culture might be questioned and might be adapted.

Independent of the task given, extrinsic rewards can foster motivation in the short-term. In the long-term, however, Deci et. al (1999, p. 681ff.) could demonstrate with their study that in the case of interesting tasks tangible rewards have a significantly negative effect on the intrinsic motivation. Verbal rewards, on the other hand, have a significantly positive effect on the intrinsic motivation. According to Deci et. al. (1999, p. 681ff.), however, tangible rewards do not create a goal-displacement effect if they are unexpected or activity-independent. Certainly, what all of the tasks have in common is that, the way how feedback is transmitted and also at the same time being incorporated determines the success of the solution.

**Cost-Benefit Positive vs. Cost Benefit Negative**

With the gathered knowledge about the eventual effects of the approach, it is critical to make a comparative assessment of all the anticipated benefits with the costs in order to determine whether Gamification is a viable solution in this change project or not. Further, with regards to the cost-benefit ratio the Gamification approach needs to be compared with other Change Management methods and tools which might bring comparable results. On this basis the final Game/No-Game decision can be taken.

**Further considerations**

What has not been taken into consideration so far – as it is not really relevant for the decision model – is the “fun factor” in Gamification. Having fun is one of the fundamental principles of Gamification. So even unchallenging tasks or ones felt to be monotonous can ultimately be converted into fun with the aid of Gamification by satisfying the ‘play instinct’. If an activity is fun, it is automatically carried out with more enthusiasm and commitment. So, it can be proven scientifically that we experience fun (i.e. intrinsic motivation) while we are trying to solve a problem that is according to our capabilities (mastery) and that we consider worth being solved (meaning). Furthermore, having fun depends on the overall experience in a game rather than on individual external factors. Many companies seem to forget about this when developing Gamification approaches. Hardly any game is attractive because of a good evaluation mechanism or because it is offering the opportunity to collect points although Gamification applications use exactly these mechanisms as means of motivation and participation. Successful applications, however, always offer apart from clear rules some other ingredients: exciting stories, the opportunity to be part of something bigger (socially/narratively), to try oneself out and often also to take an active part in designing and modifying the game. This is where testing
and the overall experience are important. When creating a system, it is easy to forget that it is all about fun (Werbach & Hunter, 2012, p. 98-99). The Four keys to more fun (Lazaro, 2004) presented in Section 2.2.2 can be used in this stage to identify what kind of fun is most relevant for the system, consequently working towards achieving this result.

### 4.3. Ground Rules

The previously introduced framework helped to gain an understanding of the decision criteria on when to use Gamification. This section now deeply focuses on some ground rules and preconditions that have to be considered when implementing Gamification in a business environment. Further, the intention of this paragraph is to provide an answer to the second defined sub-question: ‘What are the Ground Rules for applying Gamification in the Change Management context?’ Literature offers already a great number of aspects in this regard, albeit almost always with a pure Gamification background. The ground rules that will be presented based on empirical findings incorporate the perspectives and concerns of change managers and Gamification experts.

**Psychology & Neuroscience outweigh the technical solution**

In terms of implementing Gamification, game mechanics such as leaderboards, points and badges usually come to mind. However, Gamification is rather a psychological approach than a technical solution. Game mechanics merely serve as enabler to real-time feedback for the player. What distinguishes Gamification from other approaches is that the right amount of information is provided at the right time. Consequently, users do not feel overwhelmed or frustrated but rather encouraged to engage in the desired behavior (cf. Section 2.2.2). For this purpose, gamified activities focus on helping the player to progress to the next stage at the right moment, evoking a feeling of accomplishment by immediate feedback (cf. Section 2.2.2). Feedback in this case does not necessarily have to be in form of game mechanics like experience points or rankings but can also be shown by intrinsic rewards like recognition and status. These aforementioned Game Dynamics take advantage of our human psychological predisposition to engage in gaming and are eventually the reason why we feel engaged. Furthermore, incorporating the assertion of the aforementioned framework that Gamification works best when applied to a cognitive task, an even greater strategic focus should be placed on the psychological layer. Hence, the undermining effect has no detrimental effect on intrinsic motivation, when rewards are contingent on high-quality performance and the interpersonal context is supportive rather than pressuring (Deci, Koestner, & Ryan, 1999).
**Gamification is not always the best approach**

As we have seen in the framework, there are certain preconditions and dependencies on when Gamification can be used in the Change Management context. Gamification should only be used as an approach when feedback is critical to the success of a solution. Accordingly, Gamification should only be taken into consideration when motivational issues in a human focused approach have to be resolved. Thus, it is not about making a boring task playful by adding game elements but rather making the task more interesting for the person. Furthermore, Gamification might not be best suited for every organization. Gamification requires an open-minded corporate culture that aims towards information transparency and therewith associated fault tolerance. For instance, it is easier to integrate Gamification into the core area of a startup company since structures are not that established and the effort for cultural change is lower. However, what’s important to keep in mind is that transparency is not only demanded by the company itself, but also from the employee in regard of knowledge sharing. Finally, it is crucial that Gamification is not in competition with the compensation model of the enterprise.

**Collaboration comes before competition**

As mentioned in the previous paragraph, when taking a motivational approach such as Gamification into consideration, information transparency is one of the key aspects. Through information transparency, collaboration can be encouraged, which will eventually usually lead to competition. SAP is a great example for using transparency in a good way. They use the collected data to bring employees with complementary skills together. Furthermore, employees include their collected points in their CV for internal applications. However, it is important to bear in mind that competition mainly serves as a form of feedback to measure the personal progress. Comparing this to Bartle’s player types (cf. Section 2.2.3), it can also be seen that immersion, cooperation and achievement are greater motivators than the drive to win when comparing the number of player types in one segment.

On average, only 5% of players focus primarily on competition, whereas 75% are primarily collaborators (Lopez, 2012). In other words, being part of something a community and contributing to something meaningful is a much more powerful motivator than the personal win against others.

**Gamification as an interactive process solution**

What differentiates Gamification from other Change Management approaches is, that Gamification is an interactive and iterative solution. Referring back to the framework, it was determined that Gamification is a human focused approach. Consequently, the implementation should follow a bottom-up approach to initially gain acceptance among employees to eventually convince the management. Furthermore, due to the direct feedback and the trial and error approach a more accurate solution can be designed.
The implementation should start with a small issue, before subsequently continuing to find the solution to a larger problem (cf. Section 4.2). Gamification is an iterative process of updating existing understanding with new information acquired through feedback. Adjustments in the game design in doing are decisive for the long-term success of a solution. However, in the field of Change Management, Gamification is seen as a selective approach to purposefully support a defined process. One such reason is the maintenance costs that are connected to the iteration process. There are certainly also exceptions where the main input is achieved through those involved.

**Efforts towards intrinsic motivation determine the long-term success**

There are numerous examples where Gamification solely depends on extrinsic rewards rather than intrinsic motivation. However, as previously stated psychology and neuroscience have a greater impact on the long-term success than the technical implementation. One of the established theories in the field of Gamification is the Self-Determination Theory (SDT). As already exposed in the theoretical background, the SDT comprises of three core intrinsic motivations: autonomy, competence and mastery. Competence and relatedness were already discussed in the previous paragraph, whereas autonomy has only been considered subliminally so far. Autonomy in the context of Gamification can have two meanings. On the one hand, it is crucial to a human focused process like Gamification to provide the user the freedom of choice whether they want to participate in the gamified solution or not (volition). On the other hand, autonomy refers to the meaningful choices in the Gamification process itself. In other words, it is important to offer a certain number of alternatives in a process, while not giving the user the feeling of being limited to one choice. Furthermore, especially in the context of Change Management ease of access is a critical factor that has to be considered. Change has often far reaching consequences with the result that ultimately the quality of the communication strategy is the decisive factor for the success of the change. That is, how well users are educated about the change and their perception of the change approach. In this case, Gamification can help to provide an understanding for the change.

**Gamification has to be used mindful of the task**

Generally speaking, it is simpler to apply Gamification to a cognitive tasks rather than a repetitive task. This is because repetitive tasks will lose the learning effect over the course of time. As already stated in the framework, each task has its own characteristic learning curve. Repetitive tasks are limited in the scale of operational tasks, and users will therefore eventually reach at some point a feeling of mastery. Taking into account Mihály Csikszentmihályi flow theory, the task will become boring for the user since there are not any challenges left for him. The novelty effect of Gamification can help to make the task more interesting and engaging for a short period. Intrinsic motivation in repetitive tasks is therefore detrimental for the long-term level of engagement in an activity.
Consequently, it is easier to apply Gamification to a cognitive task, given that learning will always be part of the activity. Thus, users are primarily motivated due to the process and the upcoming challenges.

### 4.4. Pilot Study

Within the framework of this Bachelor thesis, a pilot study was carried out at CGI. This project concentrated on the usage of Gamification as a possible tool to improve the reporting (ODD - Order Delivery Dashboard) of the project managers. The objective of this study was, therefore, twofold: First, it should increase the response rate and, secondly, it was intended to improve the quality of the data handed in. Thus, on the basis of the obtained results, we will examine in the following, on the one hand, the effectiveness of this method (i.e. of Gamification) on reporting. On the other hand, and by using the designed framework, we will question the usefulness of Gamification in the context of this pilot project.

**Reporting (ODD) description**

The goal of the Order Delivery Dashboard (ODD) is the transparent controlling and reporting for all projects/orders in the frame of the so called ISPL Bundle – the catalog based fixed price delivery of project management services for the Information Management department of a big customer in the aerospace sector (cf. Figure 17). The main elements of the ODD are:

- Basic data per order (project name, responsible project manager, etc.)
- Contractual status of the order (volume, Purchase Order, Change Requests, etc.)
- Items to be delivered and tracking of their delivery
- Tracking of deliverable’s acceptance and invoicing
- Utilization of resources
- Verbal status of the order
- Upload module for all order related documents (Purchase Order, Invoice, etc.)
For every order in the ISPL Bundle a specific ODD is maintained by the respective ODD responsible, who is in most cases also the project manager of the order. Roughly every second week the ODD responsible has to update and submit the ODD. The data of all submitted ODDs is then automatically transferred to a master list, which is the basis for all internal and external reports. The Program Management Office which is called Program Management Office (PMO) in the frame of the ISPL Bundle is then recreating the ODDs based on the master list. The ODD Owners are informed about the availability of their ODDs and a new reporting cycle begins.

Project description

The objective of the chosen Gamification approach was to enhance employee motivation for the ODD Report, to achieve a higher response rate and to improve the quality of the ODD. The project was carried out between 15.11.2013 and 16.01.2014. So, as the ODD has to be handed in every two weeks, on the whole, four reporting cycles could be completed during the pilot phase. The pilot project, moreover, was limited to Germany as business location. Altogether, we thus could gather a number of 17 participating project- and service managers.

One of the determinants of the project was, however, that from introducing this measure no substantial extra effort must result neither for the operators nor for the other parties concerned. This also implies that no extra budget was used for its execution. The developing team, therefore, decided jointly to supplement the existing reporting by a quiz which was next to the response rate and the quality the third aspect of the leaderboard. In a similar application already documented in a doctoral thesis, a positive result could be obtained in a comparable project environment. Besides, a quiz meets all requirements for an entertaining game: It is easy to understand, there are clear rules and it generates a learning effect. During the conceptualization of the pilot project, we first reflected on the possible design of the game. For this purpose, we developed the so-called ‘Game Solution Circle’.
This model describes in essence the approach used in implementing the project (cf. Figure 18). The aim of the first phase was to develop a common vision. The intention we then agreed upon was to provide a deeper meaning to what we recognized was a repetitive activity, namely the elaboration of the reporting information. In theory, it is known that especially in the case of repetitive tasks the intrinsic motivation is decisive for the success of the measure. Furthermore, a common vision adds a certain value to the work. In our concrete case it was stipulated that the overall performance of all employees would determine the scale of the next Christmas event.

As a next step, clear rules were defined for the quiz. These are necessary to avoid ambiguities and to ensure a fair assessment for all. Moreover, a point system was introduced to award the timely handing in of the reporting forms, the compliance with the quality specifications and the correctness of the answer to the quiz question. What was essential in this context was the rule that irrespective of the number of ODDs a responsible had to send, the assessment would be made on the basis of all reporting’s that had been handed in.

The quiz was directly integrated into the ODD report, granting an easy access to its answers. The questions were chosen in a way that they were preferably related to the ODD report or dealt with in-house process issues of CGI. The feedback was structured into two parts: On the hand, the participants received a direct response after sending their reporting’s concerning the compliance with deadlines and quality requirements. On the other hand, a leaderboard was published after every cycle, allowing the employees to measure their achievements with what the other participants had done. As final reward the above-mentioned Christmas event was arranged.

![Game Solution Circle](image)

**Figure 18: Game Solution Circle**
**Project execution**

Hereafter, the implementation of the pilot project in relation to the established framework is described. The ODD was originally introduced in March 2013, with continuous technical and functional improvements having since been made. However, the response rate and quality have been a major issue since then, partly due to a lack of motivational engagement. As foreseen in the framework, the communication strategy had to be adapted. Therefore, Gamification was introduced in November 2013 to make the task more meaningful and encourage motivation. In terms of the framework, it is evident that the introduction of Gamification occurred too late (cf. Figure 19).

![Figure 19: Game Decision for Pilot Study](image)

Due to the advanced stage of the change approach, neither an additional stakeholder analysis nor a change impact analysis was conducted. Another shortcoming was the only minor involvement of stakeholders in the decision process. The ‘game design’ has been set internally and was presented during the monthly meeting for the parties involved. Additionally, the information was sent by e-mail to the corresponding parties. This rather top-down approach with low user involvement had to be chosen due to the duration of the thesis. Otherwise, it would not have been possible to gather sufficient qualitative data to make a statement about the effectiveness of the approach.

Initially the users reacted with mixed feelings. A service manager who is also a member of the shop committee expressed some concerns regarding data privacy. However, the declaration of consent was obtained prior to the launch, so this posted no further problem. Apart from that, the approach was regarded somewhat skeptically but at the same time also with ambition. Through the introduction of the leaderboard, which thus revealed job performance, the users felt challenged. When introducing the quiz, the term ‘Gamification’ was not mentioned in particular. Later on, when interviewing the Gamification experts they suggested the same approach. The term Gamification is often misleading and usually immediately connected with games. In the best case, users do not even notice that they are part of a gamified process.
After the introduction, the first ‘game cycle’ began around one week later. At the end of each cycle, a leaderboard with the current results was sent to all participants. Hence, it was possible to see his personal progress and measure the performance in comparison with others users. Overall, the quiz lasted four cycles and ended in January.

In the following we will consider the evaluation of the applied measure and show the exact results. Prior to that, the reasonableness of the approach with reference to the Gamification Decision Model will be examined briefly. In this respect, a spreadsheet with the different decision levels was created. Subsequently, the assessment of the levels will be mapped onto the Decision Model to depict whether the decision taken was reasonable.

<table>
<thead>
<tr>
<th>Decision Level</th>
<th>Identified as</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Flawless Process</td>
<td>The Process behind the ODD is simple, straightforward and driven by a mature technical solution which offers a maximum of user guidance.</td>
</tr>
<tr>
<td>2.</td>
<td>Defined Process</td>
<td>Maintaining and delivering the ODD is a clear-cut process. Each process step as well as the respective responsibilities are clearly defined.</td>
</tr>
<tr>
<td>3.</td>
<td>Human Focused</td>
<td>Mistakenly the task was regarded as Activity Focused at the beginning. Eventually, it became evident that the success of the process is depending on the person. Therefore, the task can be regarded as Human Focused.</td>
</tr>
<tr>
<td>4.</td>
<td>Feedback Possible</td>
<td>While working on the ODD users get a visual notification whether their input was correct or if they are missing out on something. Furthermore, when the ODD was completed the document will be automatically uploaded to SharePoint. As an immediate response, the user will receive an automatically generated e-mail by the system stating the quality of the documented and whether it was uploaded in time.</td>
</tr>
<tr>
<td></td>
<td>Repetitive Task</td>
<td>The task can be identified as predominantly repetitive. The ODD follows a standard operating procedure where users have to complete a predefined spreadsheet.</td>
</tr>
<tr>
<td>5.</td>
<td>Cost-Benefit Positive</td>
<td>Because of the time pressure neither the cost nor the benefits for the game were quantified. Due to the fact that the required adaptations to the tool were performed by a cheap resource, the estimated cost were rather low. The expected benefits on the other hand had a much higher value for the project.</td>
</tr>
</tbody>
</table>
In regard of the framework, applying Gamification in this context can be seen as a reasonable decision (cf. Figure 20). The thick line depicts the taken decision, which has been explained in the spreadsheet.

![Game/No-Game Decision Pilot Study](image)

**Figure 20**: Game Decision Model for Pilot Study

**Results**

The evaluation reflects what already has been identified as a flaw in the project description. The commitment in the initial two cycles of the project the ODD game had no significant impact on the response rate, due to the insufficient involvement and lack of On-Boarding. Eventually, the third cycle showed a considerable increase in the response rate, although this improvement cannot be entirely attributed to the effects of Gamification. In addition, the measure was supported by frequently reminding the stakeholders by e-mail. Further, communication measures included meetings, individual conversations and distinct support by a Bundle Management Office (BMO).
Each stakeholder is responsible for a certain number of ODDs. The data used to present the response rate in the diagram refers to the overall submitted ODDs in coherence with the total sum. The depicted quality has to be seen in relation to the response rate of the respective cycle. However, in contrast to the response rate, no improvements regarding the quality of the submitted OODs could be established; in fact, a slight decrease in the overall quality could be recognized (cf. Figure 21).

Due to the small amount of stakeholders in the pilot project, it was possible to evaluate each performance individually. It was noticed that stakeholders who initially did well, performed the same stayed the same throughout the whole project. By contrast, it was noticed that the communication measures had a visible effect on stakeholders who did not initially perform well. They changed their habit by increasing the amount of submitted ODDs. This can also partially establish the reason why the overall quality of the submitted ODDs slightly decreased.

Furthermore, an interesting side effect was noticed with the introduction of the ODD game, in that stakeholders from divisions that had not been introduced to the game started to participate in the quiz.
CONCLUSION

This last chapter summarizes the general findings of our research. Thereto theoretical contributions are presented and the different limitations will be exposed. Furthermore, we take a retrospective view on the thesis in general. Conclusive, future research suggestions are made.

5.1. Theoretical Contributions

The purpose of our study was to analyze the relevance and implications of Gamification in the Change Management context. Therefore, initially, the main research question was created ‘When can Gamification be applied as a tool for Change Management?’. The answer to that question was dichotomous, due to the two different intentions. First, the best point in time of when to apply Gamification in the Change Management context was identified. Second, the decision criteria for applying Gamification in the Change Management context were examined.

As an answer to the first part of the research question an empirically justified process framework was presented. As the basis for the Change Management process, the BTC Framework of CGI was used. For the Gamification part, a design framework by Werbach & Hunter (2012, p. 86) was used as a base for the study and modified to suit the framework. In the next step those two processes were combined and in virtue of empirical findings, a starting point was identified. What this all amounts to is that, when considering to apply Gamification in the Change Management context an early involvement of stakeholders and end users is crucial for the success. In concrete terms, the very first phase of a transformation project – called Vision phase in the BTC Framework - was identified as the right point in time to judge whether Gamification is the right instrument for the management of a change. The decision is taken while developing the communication strategy within the stream ‘Communication and Stakeholder Involvement’. This step is especially crucial when it comes to introducing and accepting new processes, due to the involvement of stakeholders’ with their specific views and interests. Moreover, it is also about reflecting and integrating the stakeholders’ suggestions, expectations and needs as much as possible into the company’s processes. The results could confirm previous findings from the evaluation of expert interviews by means of selective coding. Gamification is the combination of motivational psychology and technology, with the first being decisive for the long-term success of the approach. While taking these two factors into account, i.e. early involvement of stakeholders and the importance of motivational psychology a meaningful and engaging solution can be designed.
The term Gamification has become somewhat tarnished by incorrect use of Gamification. Especially when the use of Gamification is not justified or it is used in a superficial manner that does not benefit the business. So even though theoretically Gamification can be used in any field there is need to be careful when thinking about specific contexts.

Therefore, in the next step, the decision-making process was illustrated within a process model in order to answer the second part of the research question. We identified general parameters, which have been arranged in a logical order by means of empirical findings and the consultation of two experts. At the beginning of the decision model, we examined whether the process or rather the technical circumstances involved are flawless. During the interviews with the experts on Gamification it often came into play that companies tend to decide for a Gamification approach without having questioned the process itself before. Gamification, however, is an instrument that comes from the branch of motivational psychology and can only realize its full effect if the fundamentals of the process are flawless. Subsequently, it must be ensured that we are dealing with a process that is clearly defined and possesses neatly determinable and separable workflows. Next, if these two characteristics of processes are given, it is necessary to become aware of the methodological approach of the method used. In the case of Gamification, the focus is on the user and his or her needs. This should also be reflected in the process approach in order to avoid friction losses. Furthermore, it should be reviewed, whether it is possible to give the user feedback on his or her performance to thus be able to show him or her, among others, his or her progress. In the next step, the task needs to be classified whether it’s a cognitive, repetitive or creative task. Each type of task requires its own approach, thus is also connected with different implementation and maintenance efforts. Therefore, for the final Game/No-Game decision the cost-benefit ratio needs to be taken into account.

In order to validate our research findings and prove the usefulness of Gamification the designed framework was applied in the context of the pilot study. In the first step we revealed that using Gamification in this case was the right decision. The reporting and controlling tool (ODD) follows a standard operating procedure where users have to complete a predefined spreadsheet on a regular basis and thus was identified as predominantly repetitive task. In this regard we highlighted the emphasis on intrinsic rewards. In the case of repetitive tasks, the applicability of the player journey and the related path to mastery is rather limited. As a consequence, here, factors like dignity, meaning and autonomy must be firmly rooted in the activity itself. Thus, we also elaborated the reasons why cognitive tasks can be more easily gamified, due to their permanent learning curve. Further, the project results showed that although the pilot study was carried out under conditions of significant time constraints and associated with shortcomings in the project execution, a considerable increase in the response rate was achieved. However, in contrast to the response rate, no improvements regarding the quality of the submitted OODs could be established; in fact, a slight decrease in the overall quality could be recognized.
It should be noted this increase cannot be entirely attributed to the effects of Gamification. In addition, the measure was supported by frequently reminding the stakeholders by e-mail. Further, communication measures included meetings, individual conversations and distinct support by a Program Management Office (PMO).

5.2. Retrospective

The research question was answered by means of qualitative methods. Specifically, Grounded Theory was used in conjunction with semi-structured expert interviews. This approach turned out to be well suited for answering the research question. As a result, a framework associated with a generic decision model was defined. The pragmatic and flexible approach of grounded theory allowed detecting unheeded and new aspects in this particular area. In particular the technique of memoing was crucial, which included the researcher quickly and spontaneously writing down ideas that captured the initially elusive and shifting connections within the data.

Both expert groups have shown great interest in the subject itself, which has led to thoughtful input on the designated framework. During the interviews, it was also made clear that there are many opinions and theories regarding these approaches.

Gamification and Change Management are both agile processes, which does not always follow a strict process order. Since the term ‘Gamification’ is relatively new there is still an open discussion about the associated theories. Conducting interviews on a subject closely related to the participants’ careers and every-day work made it rather easy to derive valuable information. Eventually, the face-to-face contact helped the researcher to answer emerging questions during the development of the framework. A considerable amount of information on the subject area was detected by the open and flexible interview guideline. Given that no literature could be found concerning the combination of these two areas of study, it was possible to get new and unbiased findings as stipulated by Strauss and Corbin (1996). The open and axial coding allowed for a structured analysis of the interview results.

The following difficulties and problems have been encountered when using the Grounded Theory approach. Grounded Theory demands more in analysis than simple inspection of the data. However, Glaser & Strauss (1967) and later Glaser (1978; 1992) do not instruct the reader in a prescribed mechanism for performing the coding. Furthermore, it was difficult to identify the point of theoretical saturation. New data (especially if theoretically sampled) will always add something new, but there are diminishing returns, and the cut off between adding to emerging findings and not adding, might be considered inevitably arbitrary.
Time and resources set some limitations for the study. A limited amount of time for each step of the process set boundaries to how much time could be used at any given time. Lack of resources prevented the researcher from conducting a face-to-face interview with two of the interviewees and instead a Skype interviews was used. The time table of the interviewees was beyond the control of the researcher and resulted in some of the interviews to be delayed from schedule. This put some pressure on the data analysis because of reduced time.

It should be noted, that all the results of this study are based on qualitative data. For the purpose of data evaluation, the interview statements had to be interpreted subjectively. Therefore it is advisable to consider the findings more precisely in the aftermath by means of quantitative methods.

5.3. Future Research

Since research on this field is scarce there is much room for further research. The model presented could be tested and developed further. In the first instance, the effectiveness of Gamification on different types of activities i.e. cognitive, creative and repetitive tasks could be categorized in a more detailed manner. This would help Gamification to endure long time use and lengthen the project life cycle. On the basis of our results and those of previous studies, we propose the following research questions for the further discussion of the topic:

RQ1: How can the added value of applying Gamification be measured?

RQ2: In which kind of tasks i.e. cognitive, repetitive, or creative, is the use of Gamification the most valuable choice with regards to the Cost-Benefit ratio?

RQ3: Can repetitive tasks be gamified on a long-term basis?

Secondly, the current framework focuses on the decision whether Gamification is a suitable tool for Change Management. However, as experience shows, Change Management offers a variety of different types of means. Hence, specifically the decision model could be extended in order to create a generic model which gives guidance on which toolset should be selected for the communication strategy of a specific transformation project.

An interesting thought which hadn’t been elaborated in detail, came up in the course of the concluding discussion on the decision model. The expert stated, that Gamification might be able to evoke a paradigm shift. In concrete terms, Gamification allows to change a task which has been initially Activity Focused into a Human Focused approach. This paradigm shift could potentially enrich the work for the employees due to a higher autonomy and at the same time reduce the need (and the costs) for the company to perfectly design processes and tools to ensure the required results. This idea has to be seized and further investigated.


BlessingWhite Research (2013): Employee Engagement: Beyond the numbers: A practical approach for individuals, managers and executives.


Appendix A

Interview Guideline

The following interview guidelines were created in order to help answering the research questions of this thesis paper. Due to different perspectives there is a separate guideline for persons with a Change Management and a Gamification background. Based on the previously conducted interviews the guideline was continuously improved.

Appendix A1: Interview questions change managers

1. Introduction
   1.1. Could you please briefly introduce yourself and give some background about your current tasks and responsibilities?
   1.2. What are some problems that you face on a daily basis?
   1.3. How did you get on the subject of Gamification in the first place?

2. Change Management
   2.1. What’s your understanding of Change Management processes?
   2.2. Do you think generic approaches can work? How could it look like?
   2.3. Which tools have you used for Change Management so far?

3. Gamification in the context of Change Management
   3.1. What relevance has Gamification in the Change Management area?
   3.2. When do you think is the best time to apply Gamification in the Change Management process? Why?
   3.3. In your opinion, how do you think does Gamification differs from other approaches? Are there any additional considerations?
   3.4. Which specific business areas are best suited for the application of Gamification? Why?
   3.5. What is the hardest part when it comes to introducing Gamification?

4. Further aspects
   4.1. In your opinion, are there any subjects that have been left out and should be considered for this interview?
Appendix A2: Interview questions Gamification Experts

1. Introduction
   1.1. Could you please briefly introduce yourself and give some background about your current tasks and responsibilities?
   1.2. What are some problems that you face on a daily basis?

2. Change Management
   1.1. What’s your understanding of Change Management processes?
   1.2. What’s in your opinion the relation between Gamification and Change Management?

3. Gamification
   1.3. Do you think generic approaches can work? How could a Gamification process look like?
   1.4. When choosing a Gamification approach, which considerations have to be taken into account?

4. Gamification in the context of Change Management
   1.5. When do you think is the best time to apply Gamification in the Change Management context? Why?
   1.6. In your opinion, how do you think does Gamification differs from other approaches? Are there any additional considerations?
   1.7. Which specific business areas are best suited for the application of Gamification? Why?
   1.8. What is the hardest part when it comes to introducing Gamification?

5. Further aspects
   1.9. In your opinion, are there any subjects that have been left out and should be considered for this interview?
Appendix B

Additional Player Types

The extrinsically motivated user types by Andrzej Marczewski act in a similar way as the intrinsic types, except they are acting to get rewards. The player types are Networker, Explorer, Consumer and Self-Seeker and will be now briefly explained.

- **Networkers** want to connect to others to increase their profile and the rewards that may bring.
- **Exploitors** want to gain reward from using the system, possibly by any means. They will create things for the express reason of selling them, for example. They are also the ones who will find and use loopholes in the rules if it helps them to gain rewards.
- **Consumers** want reward from their actions in the system. They will do quizzes, join loyalty schemes and learn but only if it gives them something in return.
- **Self-Seekers** want rewards for their actions with other users. For example, they will answer questions to get points, favoring quantity over quality.

*Figure: Extrinsically motivated user types (Marczewski, 2013a)*
Appendix C

1. Tool Description

1.1. General description

Gamification is the process of introducing, transforming and operating a service system with affordances for gameful experiences in order to support user’s overall value creation. In the change management context it can be used as a tool to increase the chances of success and the acceptance of the change, respectively.

The tool typically involves applying game design thinking (e.g. leaderboards, progress bars, points) in non-game applications to make them more fun and engaging.

Gamification is rather a psychological approach than a technical solution. Game elements merely serve as enabler to give real-time feedback for the stakeholder. Therefore, a thorough analysis of the current stakeholder behavior and the identification of project impacts provide the basis for an engaging solution.

1.2. Timing

Gamification can be used to support behavioral change. Thus, gamification can be applied when affordances towards implementing change measures are made. However, it is essential to involve key stakeholders and end users in the initial development of the Communication Plan. Its lifespan matches the one of the project, with regular frequency adjustments (see implementation steps part for more information about the timing)

2. Objectives & Benefits

2.1. Objectives

Gamification can help to understand the intention of the change, support behavioral change and drive engagement. This is achieved among others by satisfying fundamental human needs, emphasizing on end user understanding and supporting user’s overall value creation. Further, Gamification can be used to bring increased openness and visibility into a process.
2.2. Benefits

Benefits of using Gamification for the **project stakeholders and end users:**

- Creates long term stakeholder engagement for internal and external stakeholders.
- Gives sense of accomplishment and necessity for the performed task (meaning).
- Enriches the work of the employees due to a higher autonomy.
- Personal progress visible, due to permanent feedback.
- End users get the right amount of information at the right time, clear objectives and, thus, orientation and guidance

Benefits of using Gamification for the **project team / for the company:**

- Align stakeholder behavior with business goals.
- The effects of the change approach can be made visible by measuring the performance of stakeholders.
- It’s possible to adapt the approach according to the feedback (iterative process)

3. Implementation Principles

3.1. Prerequisites

There are certain preconditions and dependencies on when Gamification can be used in the Change Management context. Gamification should only be used as an approach when feedback is critical to the success of a solution. Accordingly, Gamification should only be taken into consideration when motivational issues in a human focused approach have to be resolved. Thus, it is not about making a boring task playful by adding game elements but rather making the task more interesting for the person. Furthermore, Gamification might not be best suited for every organization. Gamification requires an open-minded corporate culture that aims towards information transparency and therewith associated fault tolerance. For instance, it is easier to integrate Gamification into the core area of a startup company since structures are not that established and the effort for cultural change is lower. However, what’s important to keep in mind is that transparency is not only demanded by the company itself, but also from the employee in regard of knowledge sharing. Finally, it is crucial that Gamification is not in competition with the compensation model of the enterprise.

When considering to apply Gamification in the Change Management context an early involvement of stakeholders and end users is crucial for the success. In concrete terms, the very first phase of a transformation project (vision) is the right point in time to judge whether Gamification is the right instrument for the management of a change.
The decision is taken while developing the communication strategy within the stream ‘Communication and Stakeholder Involvement’. This step is especially crucial when it comes to introducing and accepting new processes, due to the involvement of stakeholders’ with their specific views and interests. Moreover, it is also about reflecting and integrating the stakeholders’ suggestions, expectations and needs as much as possible into the company’s processes.

**Decision Model**

In order to clarify the decision-making process a generic decision model is suggested. At the beginning of the decision model, it is examined whether the process or rather the technical circumstances involved are flawless. Subsequently, it must be ensured that the process is clearly defined and possesses neatly determinable and separable workflows. Next, if these two characteristics of processes are given, it is necessary to become aware of the methodological approach of the method used. In the case of Gamification, the focus is on the user and his or her needs. This should also be reflected in the process approach in order to avoid friction losses. Furthermore, it should be reviewed, whether it is possible to give the user feedback on his or her performance to thus be able to show him or her, among others, his or her progress. In the next step, the task needs to be classified whether it’s a cognitive, repetitive or creative task. Each type of task requires its own approach, thus is also connected with different implementation and maintenance efforts. Therefore, for the final Game/No-Game decision the cost-benefit ratio needs to be taken into account.

![Game/No-Game Decision Model](image)

*Figure 1: Gamification Decision Model*
3.2. General Principles

Good games have typically a number of features, which will be explained throughout this section.

- Games have S.M.A.R.T. goals. This acronym encapsulates that games have goals that are specific, measurable, achievable, realistic and time bound. Setting a good goal (long and short term) for a Gamification project involves understanding the current scenario, and target business outcome, and setting the conceptual progress on these goals.
- Games undermine meaningful choices by offering autonomy. If you are playing a game, you can see relatively easily what actions and choices are available. In addition, there is a clear relationship between actions/choices available and goals you are trying to achieve.
- This combination of S.M.A.R.T. goals, clear actions and choices, and obvious relationships between these three elements make games very appealing and engaging.
- Games provide significant feedback. In a game, you receive much feedback about what you are doing, when you are successful, and when you are not. At any point, you can tell where you are in the game, given that your current status is obvious.

The Flow State

Good video games progress through increasing levels of difficulty to balance improving player skills with more difficult challenges. One reason why games are so engaging is that players are constantly being offered a challenge that, despite being difficult, is within their capability. When choosing a gamified approach, one must carefully balance challenge and skills as player’s progress to maintain engagement.

Figure 2: The Flow Zone (Mihály Csikszentmihályi, 1991)
Mihály Csíkszentmihályi, a researcher on positive psychology, described the state of a person who is fully in an activity that balances skill and challenge as achieving a state of ‘flow’ (Csíkszentmihályi, 1991). As shown in the Figure, the dynamic challenge-skill balance is the core element of the flow concept.

In order to experience flow, both the challenge of the situation and the skill to meet the challenge need to be at an individually high level (Jackson, 2012, p. 127). This balance is referred as flow zone. As Figure 7 depicts, if one is above the flow channel (i.e., the skill cannot meet the challenge), it is likely that anxiety occurs. In the opposite case, the result is boredom. What matters is only the perception of the challenge and skill level, rather than the objective analysis.

Even failures are desired, because it improves the experience of mastering the challenge thereafter. Further, the challenge itself should also vary to prevent doing the same thing all over. With a person's skills improving over time, the challenge needs to increase along with the improving skills. Flow is the optimal state of intrinsic motivation, where people reach a mental state of full focus and immersion in what they are doing. This state is characterized by loss of self-awareness, a feeling of being perfectly challenged (neither bored nor overwhelmed) and a sense that time is flying (Wu, 2011).

**Player Types**

One of the most important aspects of successful Gamification involves understanding what motivates individuals. People are different and experience things differently and therefore it is crucial to understand that not all Gamification techniques fit all ‘players’ equally well. For example, outgoing, competitive types might want to see how they compare to others, while more introverted, quiet types might be averse from the same mechanics.

When beginning to implement a gamified system it is beneficial to think customers and users as players. The idea of a gamified system is to make something more game-like; therefore, it is important to think about who is using it as a player. Accordingly, the focus in the design process will be more about satisfying the needs of a player rather than a customer (Radoff, 2011, p. 63ff.). Richard Bartle was one of the first researchers who analyzed the ethnography of online game players in the first MUD in 1978 (Multi-User Dungeon).
In order to understand why people play games, Richard Bartle identified four player personality types by studying games: Achievers, Explorers, Socializers and Killers, which are shown in Figure 8 (Bartle, 1996). The player types can be defined as follows:

- **Achievers** are driven by in-game goals, usually some form of points gathering – whether points, levels or badges. They focus on getting the best result for themselves, not to show off to others. Ten percent of players are of this type.
- **Explorers** want to know everything about the game. They do not mind spending time doing repetitive tasks to unlock new levels of the game. Ten percent of players are of this type.
- **Socializers** play for the joy of interacting with others rather than for the game itself. The majority of players (as much as 80%) fall into this category.
- **Killers** are similar to Achievers in that they like to win points and status. However, they go one-step further and find joy in seeing others lose. Interestingly, less than 1% of players are of this type.

In general, people are not exclusively one player type or another. Most people exhibit each player type to a certain degree. Understanding these player types will endorse the process of choosing the game mechanics that will be most appealing for the target audience and drive the desired behavior.
Game Mechanics

Table 1 summarizes the most common game mechanics used in Gamification and offers a brief guidance on when to apply a certain game technique:

<table>
<thead>
<tr>
<th>Game Technique</th>
<th>Description</th>
<th>Use When ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Points</td>
<td>A visible metric that associates value with an action</td>
<td>Rewarding an action that supports a business goal; providing immediate feedback; measuring progress</td>
</tr>
<tr>
<td>Levels and achievements</td>
<td>A cohesive series of positions, milestones or point thresholds; badges</td>
<td>Encouraging participation and continued mastery/learning; creating process visibility</td>
</tr>
<tr>
<td>Challenges and competitions</td>
<td>Events or tasks one must complete to reach individual or group goals</td>
<td>Driving participants to achieve a specific outcome while improving efficiency/effectiveness</td>
</tr>
<tr>
<td>Leaderboards</td>
<td>List how participants rank against each other</td>
<td>Promoting continuous improvement opportunities; sharing best practices</td>
</tr>
</tbody>
</table>

Table 1: Gartner (August 2012) - Gamification: The Serious Side of Games can make Work more Interesting

Although all game elements can be used in Gamification they might not all be equally relevant. Some are more potent and useful than others. This is not to say that the other elements are not useful or used in gamified systems. These are just the most commonly used elements derived from the literature. Despite the great variety, game mechanics are not always sufficient to attract everyone. Every person is different and hence motivated by different things in many different ways. Game mechanics that work well for some might work poorly for other. Moreover, people get bored with routines after a while, but designers use game dynamics to counteract repetition and boredom (Wu, 2011).

Game Dynamics

Therefore, game dynamics are linked with game mechanics in the elaboration of every gamified activity. Given that there is a slight distinction between game mechanics and game dynamics, it is important to identify the difference between these two terms.

“Gaming dynamics are temporal evolution and patterns of both the game and the players that make the game (or any gamified activity) more enjoyable.” (Wu, 2011b)

Points, Badges and Leaderboards and so on are game mechanics and their aim is to drive motivational behavior. On the other hand, the reward schedule during the journey of a player in the game and the certain moment where these badges or achievements are unlocked are handled through game mechanics. Game dynamics are created by combining various game mechanics over time to make game play more interesting and engaging (Wu, 2011b).
One of the simplest is the player’s level journey: novice – expert – master, which was adapted by Amy Jo Kim to fit the Gamification context. Kim suggests using different approaches to meet the player’s needs. Novices need to be introduced into the new environment (onboarding), experts look for fresh content, activities and challenges, while masters seek for recognition and impact (Kim, 2011). Thus, well-designed game dynamics focus on helping the player to progress to the next stage, at the right moment and evoke a feeling of accomplishment. On the other hand, poor game dynamics let players feel either anxious, due to a too complex challenge or bored if there is not a challenge and therefore making the game less engaging (Wu, 2011b).

3.3. Implementation Steps

Based on the design frameworks of Kevin Werbach and Mario Herger & Janaki Kumar’s’ approach of Player Centered Design the following Gamification process is suggested and briefly explained hereafter (cf. Figure 4).

![Figure 4: Generic Gamification process on a project management level](adapted from Werbach & Hunter, 2012)

Given that the main purpose of Gamification is to achieve business goals, it is crucial to have a good understanding of these goals at the very beginning. Even when effective, Gamification can produce results that don’t necessarily help. Therefore in the first process step the business objectives are defined. After that, the system will be created to specifically address such objectives.

The next step is to delineate target behaviors. Werbach & Hunter (2012, p. 89) propose that you should define what you want your customers to do and how to measure that behavior. The target behavior should be as specific as possible and should promote business objectives, although the relationship might be indirect (Werbach & Hunter, 2012, p. 89-90). The metrics should provide feedback to the player in some fashion, letting them know when they are successfully engaging in the intended behavior.

The third step in the framework is to describe the players. By knowing what type of player will be using the system, it is possible to create a system that will appeal to them (Werbach & Hunter, 2012, p. 91-93). Bartle’s player type model presented in Section 3.2 can be used in this step to describe the players (Werbach & Hunter, 2012, 92).
Afterwards, the game design is being developed. This comprises among other things the description of rules, feedback, game elements or characteristics of the gamified activity. Therefore the approach of Player Centered Design (Mario Herger & Kumar, 2013, p. 33), which puts the user at the center of the design and development process can be suggested. The aim is that users always know when they do something good and get immediate feedback to prove it. However, it is not enough to get feedback, because that will not tell the user whether or not he/she is advancing. Due to this progression, loops are needed. Progression loops can offer a perspective on the player's journey on a macro level. They give the impression that the experience changes as users move through it.

That is usually achieved with escalating levels of challenge and difficulty. Essentially, this process step includes all the design thinking necessary to create a first prototype and start implementation afterwards.

Constant monitoring of feedback and metrics will subsequently be required to ensure that a gamified system continues to work as planned (Zichermann & Cunningham, 2011, p. 73). With the aid of this more generic approach to Gamification, it is now possible to compare Gamification and Change Management in the next chapter.

4. Appendix

4.1. Example Decision Model ODD

In the following we will elaborate the decision, for applying Gamification to the ODD. Thus, showing the reasonableness of the approach with reference to the Gamification Decision Model. In this respect, a spreadsheet with the different decision levels was created. Subsequently, the assessment of the levels will be mapped onto the Decision Model to depict whether the decision taken was reasonable.

<table>
<thead>
<tr>
<th>Decision Level</th>
<th>Identified as</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Flawless Process</td>
<td>The Process behind the ODD is simple, straightforward and driven by a mature technical solution which offers a maximum of user guidance.</td>
</tr>
<tr>
<td>2.</td>
<td>Defined Process</td>
<td>Maintaining and delivering the ODD is a clear-cut process. Each process step as well as the respective responsibilities are clearly defined.</td>
</tr>
<tr>
<td>3.</td>
<td>Human Focused</td>
<td>Mistakenly the task was regarded as Activity Focused at the beginning. Eventually, it became evident that the success of the process is depending on the person. Therefore, the task can be regarded as Human Focused.</td>
</tr>
</tbody>
</table>
4. Feedback Possible

While working on the ODD users get a visual notification whether their input was correct or if they are missing out on something. Furthermore, when the ODD was completed the document will be automatically uploaded to SharePoint. As an immediate response, the user will receive an automatically generated e-mail by the system stating the quality of the documented and whether it was uploaded in time.

Repetitive Task

The task can be identified as predominantly repetitive. The ODD follows a standard operating procedure where users have to complete a predefined spreadsheet.

5. Cost-Benefit Positive

Because of the time pressure neither the cost nor the benefits for the game were quantified. Due to the fact that the required adaptations to the tool were performed by a cheap resource, the estimated cost were rather low. The expected benefits on the other hand had a much higher value for the project.

The thick line depicts the taken decision, which has been explained in the spreadsheet.

![Game/No-Game Decision Model for Pilot Study](image)

*Figure 5:* Game Decision Model for Pilot Study