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GAMIFICATION AS A MEANS FOR EMPLOYEE MOTIVATION, PERSONAL ENGAGEMENT AND BEHAVIORAL OUTCOMES: A GAMIFICATION SYSTEM DEVELOPERS’ PERSPECTIVE

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ABSTRACT

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A major challenge faced by companies today is the engagement gap at the workplace and how to motivate employees to engage in less intrinsically motivating work activities that are valuable for the organization. The objective of this study is to investigate gamification as a means for employee motivation and personal engagement that result in behavioral outcomes from the gamification developers’ perspective. Theories of work motivation and engagement are viewed in relation to gamification. The empirical part conducts a qualitative multiple-case study. The data is analyzed with the CAQDAS NVivo. The empirical findings suggest that gamification can enhance employee motivation, but careful consideration of extrinsic motivators is necessary to avoid their detrimental effect on intrinsic motivation. Employee self-determination is built through internalization of gamified system’s goals reaching autonomous motivation to engage in the target behavior. Employee engagement is built by fulfilling the psychological conditions of meaningfulness, safety and availability. The results suggest that gamification can build employee motivation and engagement leading to behavior change if designed with the business objectives in mind. Moreover, the gamified system needs to be renewed to address the changes in the business environment and reflect them in the employee behavior.
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1. INTRODUCTION

Employee engagement has become a topic of interest among human resource management, consulting firms, businesses and researchers (Saks, 2006; Macey & Schneider, 2008; Schaufeli & Bakker, 2010, 10; Shuck & Wollard, 2010; Jose & Mampilly, 2012; Robertson, Birch & Cooper, 2012; Schaufeli, 2012). This interest in employee engagement is driven by the increasing disengagement among workforce leading to employee engagement gap at the workplace (Attridge, 2009; Bates, 2004; Richman, 2006; Saks, 2006). Based on the review of the research on employee work engagement, Attridge (2009) identified a general pattern of the distribution of engagement across employees, 20 percent of workers being actively disengaged in their work. This represents an untapped potential that organizations should explore.

The relation of human needs to work motivation is important in delineating work environment since it can lead to positive or negative work-related outcomes (Baard, Deci & Ryan, 2004). Understanding the antecedents of motivation that drive engagement is important in designing internal strategies for employee engagement in the work processes. Studies on employee engagement have found that the level of engagement has an impact on productivity (Saks, 2006; Shuck & Wollard, 2010; Shuck & Reio, 2014), customer satisfaction (Harter, Schmidt & Hayes, 2002; Richman, 2006) and performance (Bates, 2004; Bakker & Demerouti, 2008; Attridge, 2009; Rich, LePine & Crawford, 2010; Jose & Mampilly, 2012). Engagement facilitates psychological presence of employees in their duties (Kahn, 1990), and leads to an enhanced quality of work and extra-role behavior compared to less engaged co-workers (Macey & Schneider, 2008; Schaufeli, 2012). Moreover, the study of Harter, Schmidt and Hayes (2002) identified a linkage between employee engagement and financial outcome.
Gallup (2013) research conveys that employee active disengagement costs the United States an estimated $450 billion to $550 billion annually. As a result, organizations seek ways to enhance the levels of engagement (Shuck & Rose, 2013), ranking employee engagement as a top challenge and priority for the management (Wah, 1999; Ketter, 2008; Attridge, 2009; Shuck & Wollard, 2010; Schaufeli, 2012). According to Deloitte Global Human Capital Trends research, 78 percent of business leaders rate engagement as important (Deloitte, 2014).

Previous research has emphasized on the engagement as an outcome, omitting the conditions from which engagement emerges (Shuck & Rose, 2013). Engagement of condition will be studied in this work by focusing on enterprise gamification and the conditions it should create to facilitate employee motivation to engage in the behavior designed by the system. Gamification represents a means to drive user motivation and engagement (Deterding, 2011; Nicholson, 2012; Werbach & Hunter, 2012, 8; Hamari & Koivisto, 2013).

Gamification is built upon the lessons learnt from games – the intrinsically and extrinsically rewarding games that lead to players’ increased motivation and engagement, in particular cognitive engagement due to games’ interactivity, having the potential to make non-game products more engaging (Deterding, Dixon, Khaled & Nacke, 2011; Schoenau-Fog, 2011; Vassileva, 2012; Werbach & Hunter, 2012, 20-25; Kosmadoudi, Lim, Ritchie, Louchart, Liu & Sung, 2013; Leeson, 2013; Burke, 2014, 6). Considering the scale of gaming, their motivational pull and the linkage of games with psychology, there is a potential of game-like techniques for businesses (Ryan, Rigby & Przybylski, 2006; Mollick, 2014). Gamification is a reverse-engineering of the elements that make the game effective, translated into business context. (Werbach & Hunter, 2012, 9)

Gamification is an emerging field that drives the attention of practitioners followed by scholars (Deterding, 2011; Deterding, et al., 2011; Huotari &
Hamari, 2011; Huotari & Hamari, 2012). However, the theoretical approach and empirical studies on the topic of enterprise gamification and employee motivation and engagement is limited at the moment of the present study (Hamari, 2013; Mollick, 2014), though continuously developing.

The time aspect of the present study is essential since gamification is at the turning point of its adoption by businesses. Gamification was placed on the peak of inflated expectations on Gartner’s Hype Cycle for Emerging Technologies as of 2012 and 2013 with the forecast to reach the Plateau of Productivity in five to ten years, and approaching the disillusionment stage starting with 2014, as illustrated in Appendix 1. The disillusionment is caused by a prediction of failed implementation of gamification due to misunderstanding of game design and engagement strategies, leading to a prediction of 80 percent of gamified applications to fail by 2014. (Burke, 2012a; Burke, 2012b; Gartner, 2012; Burke, 2014, 6-8, 151-152)

1.2 Theory overview

Gamification stands for a gameful design, which according to Deterding et al. (2011) is placed in between game and play, using specific game parts – the game design. Gamification has been widely defined as “the use of game elements and game-design techniques in non-game contexts” (Deterding et al. 2011; Burke, 2012a; Gartner, 2012; Werbach & Hunter, 2012, 26; Deterding, Dixon, Björk, Lawley & Nacke, 2013). Gamification has been applied in service marketing (Huotari & Hamari, 2012), affiliate marketing (Salcu & Acatrinei, 2013), customer engagement, employee performance, innovation management, sustainability and health (Gartner, 2012), training and education (Saukkonen, 2010; Lee & Hammer, 2011; Dominguez, Saenz-de-Navarrete, de-Marcos, Fernández-Sanz, Pagés & Martinez-Herráiz, 2013; de-Marcos, Dominguez, Saenz-de-Navarrete & Pagés, 2014) contexts.
The game elements stand for the game components, mechanics and dynamics. The combination of the components from each group of elements constitutes the design decisions that aim at engaging behavior. Thus, gamification constitutes a form of motivational design, which aims at getting the target audience in behaving a certain way. (Werbach & Hunter, 2012, 45, 69-83)

Along with game design elements, gameful design applies concepts from behavioral economics (Moise, 2013; Hamari, Koivisto & Sarsa, 2014) and it is drawn upon a set of motivation and engagement theories borrowed from psychology. Motivation is differentiated between extrinsic and intrinsic (Ryan, 1995; Ryan & Deci, 2000a; Ryan & Deci, 2000b; Gagné & Deci, 2005; Alhaji & Yusoff, 2012). Extrinsic motivation is controlled due to its external regulation initiated and maintained by external rewards (Rummel & Feinberg, 1988; Ryan, 1995; Deci, Koestner & Ryan, 1999; Ryan & Deci, 2000a; Ryan & Deci, 2000b; Gagné & Deci, 2005). This concept is applied to gamification to drive a response behavior, which has a consequence – a negative or positive reinforcement, such as point deduction or rewards. As a result, a gamified system generates learning and familiarity through behavior regulators.

Based on self-determination theory (Deci & Ryan, 2000; Ryan & Deci, 2000a; Gagné & Deci, 2005), external regulators are introjected, identified and integrated, the latter having the highest degree of self-determination from the extrinsic motivators, which require an alienation of one’s goals, values and regulation. Thus, external regulation is turned into an internal regulation through the process of internalization, which no longer requires the presence of external contingency. Through integration the degree of self-determination increases, the controlled motivation being translated into autonomous motivation. (Deci et al., 1994; Ryan, 1995; Ryan & Deci, 2000a; Gagné & Deci, 2005; Werbach & Hunter, 2012, 67-68)
The autonomous motivation constitutes an active engagement of the user. Keeping the behavior engaging requires the fulfillment of competence, autonomy and relatedness needs. However, the interest in the activities will become a function of the degree to which they experience the satisfaction of these needs while engaging in the specific behavior. (Deci & Ryan, 2000; Ryan & Deci, 2000a; Gagné & Deci, 2005; Vassileva, 2012) Moreover, the engagement is also a function of the psychological availability (Kahn, 1990) and vigor (Schaufeli, Salanova, González- Romá & Bakker, 2002) in terms of the resources the employees can invest in performing their roles. Thus, the challenge for a gamified system is to move from controlled motivation toward autonomous motivation and to maintain the interest of the employee in engaging with the system over a long-term period.

Engagement should be perceived not only as an outcome, but also within the conditions it emerges from, called engagement of condition (Shuck & Rose, 2013). This requires a shift from gamification as a mechanism, which is externally controlling, toward a user-centered design (Lens, Paixao, Herrera & Grobler, 2012; Nicholson, 2012; Burke, 2014, 23) and to create meaningful conditions (Kahn, 1990; Ariely, 2012) to engage employees. Kahn (1990) defines psychological meaningfulness as one of the conditions of personal engagement along with psychological availability and safety, all three conditions having a significant positive impact on engagement (Kahn, 1990; May, Gilson & Harter, 2004; Shuck & Rose, 2013). However, the psychological meaningfulness has been proven by test results as having the strongest effect on engagement (May, Gilson & Harter, 2004; Fairlie, 2011). A consequence of meaningfulness is dedication (Schaufeli et al., 2002). Gamification should imply meaningfulness through the goals, rewards and challenges that describe the player journey in order to build employee dedication.

Through meaningfulness and purpose (Shuck & Rose, 2013) a gamified system can create conditions for engagement, leading to a three-dimensional construct of engagement: cognitive, emotional and physical
engagement (Kahn, 1990; Gagné & Deci, 2005; May, Gilson & Harter, 2004; Shuck & Rose, 2013; Shuck & Reio, 2014). Gamification can engage users in these three dimensions by implementing game mechanics and design to create an experience of value coherence in order for the user to receive meaningfulness through the congruence between behaviors expected to be performed and the ones perceived as part of oneself (Rich, Lepine & Crawford, 2010; Fairlie, 2011). The final dimension of engagement in gamification is described by high levels of autonomous motivation reached through internalization and absorption (Schaufeli et al., 2002) which stands for high concentration with an activity, and lead to the state of flow (Csikszentmihalyi, 1996).

Motivation has been looked upon in work settings (Baard, Deci & Ryan, 2004; Gagné & Deci, 2005). Engagement has also been studied in working environments (Kahn, 1990; Harter, Schmidt & Hayes, 2002; Saks, 2006; Bakker & Demerouti, 2008; Macey & Schneider, 2008; Schaufeli, 2012). The present study draws upon these concepts in gamified settings.

The main objective of the study is to analyze how gamification is perceived by gamification developers in building employee motivation and engagement and delivering behavioral outcomes. This perspective was omitted in the previous studies on gamification, in which the focus was on the user (Hamari, Koivisto & Sarsa, 2014). This aspect is selected because developers’ understanding of employee motivation and engagement is directly reflected in the gamification solution. This study will tie gamification to established theories in the field of work motivation and employee engagement, and attempt to integrate the latter two concepts, which has not been done in earlier studies (Macey & Schneider, 2008). Additionally, the work attempts to provide an insight on how developers of gamified solutions perceive the future of gamification. Furthermore, the contribution of this study is its qualitative approach, since majority of earlier studies on gamification applied quantitative methods (Hamari, Koivisto & Sarsa, 2014).
1.3 Research questions

Employee engagement constitutes an emerging area that catches the attention of practitioners and scholars and has major implications for human resource development (Saks, 2006; Macey & Schneider, 2008; Schaufeli & Bakker, 2010, 10; Shuck & Wollard, 2010; Jose & Mampilly, 2012; Robertson, Birch & Cooper, 2012; Schaufeli, 2012). However, there is limited research conducted on the role gamification plays in building employee motivation and personal engagement (Hamari, 2013; Mollick, 2014). The gamification developers’ perspective is missing in the earlier studies. This study is to fill in this research gap by studying gamification as a means for employee motivation and engagement that lead to behavioral outcomes from the gamification developers’ perspective. Behavioral outcomes constitute behavior change, employee learning and development (Burke, 2014, 37) that are a result of the business objectives (Werbach & Hunter, 2012, 86; Burke, 2014, 90). The research question and sub-questions were designed to reach the aim of the research. The main research question is:

How gamification is perceived as a means to achieve employee motivation, personal engagement and behavioral outcomes by gamified systems’ developers?

Gamification consists of elements borrowed from game industry (Deterding et al. 2011; Burke, 2012a; Gartner, 2012; Werbach & Hunter, 2012, 26; Deterding et al., 2013). The role of extrinsic and intrinsic motivators in designing gamified solutions is critical. Moreover, there is need to create a gamified design that facilitates internalization of the systems’ goals as employees’ own goals reaching internal regulation that does not require the presence of external contingency. (Deci et al., 1994; Ryan, 1995; Ryan & Deci, 2000a; Gagné & Deci, 2005; Werbach & Hunter, 2012, 67-68) To be able to answer the main research question, there is need to identify how the developers of gamified systems see gamification and its elements in building employee motivation. Thus, the first sub-question is the following:
1. How do gamification and its elements build employee motivation?

The course of motivation can take a cyclical pattern depending on the length of goal pursuit and the task the employee is faced with. This non-linear approach to motivation is based on two dimensions of motivation: outcome-focused motivation, that represents the effort invested in reaching a goal (Brehm & Self, 1989; Locke & Latham, 1990; Touré-Tillery & Fishbach, 2011), and means-focused motivation, which is deriving value from using right means in the process of goal pursuit (Higgins, Idson, Freitas, Spiegel & Molden, 2003; Touré-Tillery & Fishbach, 2011). These together constitute the course of motivation (Touré-Tillery & Fishbach, 2011). Understanding the goal-gradient for human psychology of rewards is important. Thus, maintaining a means-focused motivation and also managing the course of motivation represent some of the challenges faced by gamification developers. Therefore, the second sub-question is:

2. How can gamified systems manage the course of motivation in pursuing behavioral outcomes?

Gamification represents a means to drive employee motivation and engagement (Nicholson, 2012; Werbach & Hunter, 2012; Hamari & Koivisto, 2013). Personal engagement is driven by three psychological conditions of meaningfulness, availability and safety (Kahn, 1990). Moreover, keeping the behavior engaging requires the fulfillment of competence, autonomy and relatedness needs. The interest to engage will become a function of the degree to which employees experience the satisfaction of these needs while engaging in the specific behavior. (Deci & Ryan, 2000; Ryan & Deci, 2000a; Gagné & Deci, 2005; Vassileva, 2012) In the present research the conditions gamification systems should create to facilitate employee engagement will be looked upon. Therefore, the third sub-question is:

3. How can gamification enhance employee engagement?
The challenge lies in maintaining the employee motivation to continue to engage in the behavior that the gamified system is designed to produce over the long-term. Motivation takes a cyclical down-and-up pattern over time, determined by the length to the goal pursuit (Touré-Tillery & Fishbach, 2011). Employee engagement is characterized by a similar pattern, as employees may experience leaps and falls in engagement. Moreover, engagement might have boundaries in time. (Kahn, 1990; Macey & Schneider, 2008) Engagement can fluctuate due to the work environment and distractions from employee’s outside life (Macey & Schneider, 2008), making engagement an affective-cognitive state rather than a momentary state (Schaufeli et al., 2002; Saks, 2006). Furthermore, extrinsic motivators are not sufficient to drive engagement. They deliver results only in the short-term and reduce employee’s intrinsic motivation in the long-term. (Burke, 2014, 18-19) Therefore, the fourth sub-question is the following:

4. How can a gamified system maintain its continuation in motivating and engaging the employee over the long-term?

The time aspect also considers the perception of the future of gamification by developers of gamified systems, whether it will become an industry itself or be integrated in existing processes and strategies. This is to approach how gamification developers will overcome the disillusionment phase on Gartner’s Hype Cycle for Emerging Technologies, a stage that is predicted to start in 2014 (Burke, 2012a; Burke, 2012b; Gartner, 2013; Burke, 2014, 6-8, 151-152). The following subchapter introduces the theoretical framework developed for the purpose of this study.
1.4 Theoretical framework

The theoretical framework is based upon the pyramid of gamification elements taken from Werbach and Hunter (2012, 69-83), the self-determination and cognitive-evaluation theories of motivation developed by Deci and Ryan (1994), and the personal engagement theory introduced by Kahn (1990). The rational of the relations between gamification, employee motivation and engagement theories are drawn upon the test results of studies conducted in the area of human resource development and work environment (Kahn, 1990; May, Gilson & Harter, 2004; Shuck & Rose, 2013; Shuck & Reio, 2014), organizational behavior (Gagné & Deci, 2005), and psychology (Ryan & Deci, 2000a; Deci, Eghrari, Patrick & Leone, 1994). Gamification represents a means to drive user motivation and engagement (Deterding, 2011; Nicholson, 2012; Werbach & Hunter, 2012, 8; Hamari & Koivisto, 2013) to deliver behavioral outcomes (Burke, 2014, 37), as presented in figure 1.

![Figure 1. Ex-ante theoretical framework](image)

Employee motivation emerges from gamification as a result of positive, extrinsically and intrinsically motivating gameful experiences brought by the implementation of a gamified system. Moreover, gamification increases the motivation of the employees to perform tasks promoted by the gamified system. (Koivisto & Hamari, 2014; Hamari, Koivisto & Sarsa, 2014) Therefore, gamification represents a means to motivating employees to
achieve goals (Burke, 2014, 9). As a result, the employee motivation leads to behavioral outcomes.

According to self-determination theory, people’s motivation varies in its level and orientation (Ryan & Deci, 2000a). Considering that gamification needs to engage behaviors over time, the motivation becomes time-specific. By familiarizing with the gamified system, the user learns about the benefits of the gamified system and becomes more committed by accepting the regulation as his own. Thus, the motivation evolves from moderately controlled to autonomous motivation leading to self-determined behavior (Ryan & Deci, 2000a; Gagné & Deci, 2005).

Gamification is proposed as a solution for personal engagement (Koivisto & Hamari, 2014). Engagement is considered from the perspective of conditions from which it emerges (Shuck & Rose, 2013) in addition to engagement as an outcome. Antecedents of engagement start a motivational process that generates work engagement (Bakker & Demerouti, 2007; Bakker & Demerouti, 2008). Major antecedents of engagement constitute the psychological conditions of meaningfulness, safety and availability (Kahn, 1990). Therefore, motivation and engagement are present in building behavioral outcomes. Most common end-goal of gamification is to affect employee behavior (Hamari & Koivisto, 2013).

As engagement evolves in a fluctuating manner (Kahn, 1990; Macey & Schneider, 2008), similar to motivation (Touré-Tillery & Fishbach, 2011), both are becoming a moving target for the gamified system. As a result, the regulatory processes that drive the self-determination of the employee constitute the conditions under which one engages in the gamified activities. The user's cognitive, emotional and physical engagement intensifies once the employee internalizes the goal of the gamified system. Moreover, engagement can be operationalized as a psychological motivational-state variable (Shuck & Reio, 2011; Shuck & Rose, 2013). Therefore, employee motivation leads to personal engagement.
Figure 1 exhibits the ex-ante theoretical framework. The ex-ante model will be presented to the gamification developers participating in this study in order to identify their suggestions for improvement. The ex-post theoretical model will be produced as a result of the thorough literature overview and empirical analysis.

1.5 Defining key concepts

**Enterprise gamification** constitutes the use of game elements and game-design techniques in workplace contexts to change behaviors (Werbach & Hunter, 2012, 20). The working definition is the use of game elements and game design techniques to motivate employees to engage in behaviors encouraged by the gamified system. Gamification and enterprise gamification are used interchangeably in this study.

**Employee motivation** is looked at from the perspective of self-determination theory. Employee motivation varies in its degree of self-determination as it progresses from controlled motivation, regulated by the system, towards the coherence of regulation with one’s values, leading to autonomous motivation (Deci, et al., 1994; Ryan & Deci, 2000a). In the present study, motivation stands for employee’s self-determination to perform behaviors and reach goals monitored by the gamified system. The terms employee motivation and work motivation are used interchangeably.

**Intrinsic motivation** refers to an engagement into an activity because it is inherently interesting and one derives satisfaction from the activity itself. Under intrinsic motivation, behaviors are not a function of control or rewards. (Deci, Koestner & Ryan, 1999; Ryan & Deci, 2000b; Gagné & Deci, 2005)

**Extrinsic motivation** generates an engagement in an activity because it leads to an outcome. Satisfaction comes from the extrinsic activities generated from the activity consequences rather than from the activity itself. As a result, extrinsic motivation needs an instrumentality, such as tangible
rewards, between the activity and its consequences. (Rummel & Feinberg, 1988; Ryan, 1995; Deci, Koestner & Ryan, 1999; Ryan & Deci, 2000a)

**Internalization** in self-determination theory stands for the process in which an individual transforms the external regulation of a behavior into its internal regulation (Deci, et al., 1994; Ryan & Deci, 2000a; Gagné & Deci, 2005). The individual reaches an autonomous motivation to engage in that specific behavior instead of being driven by an external regulation.

**Autonomous motivation** stands for the intrinsic motivators that lead to the highest level of self-determination, the point when the employee derives inherent satisfaction from task performance (Gagné & Deci, 2005). Autonomous motivation can be reached also with extrinsic motivators when external regulations are internalized, inducing a higher level of self-determination. (Deci et al., 1994; Gagné & Deci, 2005)

**Controlled motivation** is the motivation that is externally regulated. Extrinsic rewards constitute external regulations. (Gagné & Deci, 2005) In the present study, controlled regulation implies the basic quantified elements of gamification such as points, badges, leaderboards and other rewards that drive the initial engagement of the user in a specific behavior.

**Employee engagement** is defined based on the personal engagement theory as the expression of oneself cognitively, emotionally and physically in the role performance (Kahn, 1990). In the present study the terms personal, employee and work engagement are used interchangeably.

**Behavioral outcomes** in the present study constitute behavior change for existing employees by adopting new processes, training of new hires to onboard the business, or personnel’s learning and development within the organizations (Burke, 2014, 37). Behavioral outcomes represent target behaviors that are to be achieved with the help of gamification solutions, as a result of employee motivation to engage in that certain behavior.
1.6 Delimitations

Gamification can be applied to a variety of situations. Gamification targeted at consumers are not considered. The focus of this study is on enterprise gamification, more specifically on employee motivation and engagement driven by it. These concepts are looked at only from the perspective of gamification solutions developers. The sample is constituted from start-up firms that are focusing on assisting traditional companies in adding a gamified layer to internal activities. These companies have expertise in designing gamification solutions considering the motivational and engagement aspect, these being the aspects this study attempts to tap into.

Previous studies focused on users’ experience with gamification, such as exercise related gamification services (Hamari & Koivisto, 2013; Koivisto & Hamari, 2014), affiliate marketing (Salcu & Acatrinei, 2013) and education (Saukkonen, 2010; Dominguez et al., 2013; de-Marcos et al., 2014), all having the user as the unit of analysis. Studying the user is beyond the scope of this research. The focus is on the employee from the perspective of the gamification system developers. This is to add value to the field of research on gamification in an area that has not been studied yet.

The theoretical part of this thesis is based on the self-determination theory (Deci, et al., 1994; Ryan, 1995; Deci & Ryan, 2000; Gagné & Deci, 2005), cognitive evaluation theory (Ryan & Deci, 2000a; Ryan & Deci, 2000b), and the personal engagement theory (Kahn, 1990). These theories best resemble the motivation and engagement processes that gamification is built upon. The theory of planned behavior is not considered since it requires the perceived behavioral control and behavioral intention in predicting behavioral achievement, which can be studied from the employee perspective (Ajzen, 1991) rather than gamification developers’ point of view. Other theories of motivation, engagement and behavior are left out in order to ensure a consistent focus. This is also due to the fact that the present work is related to business rather than psychology. Yet, the nature of the topic requires familiarizing with concepts and theories from psychology.
Motivation is looked upon from the extrinsic and intrinsic perspective, omitting amotivation because employees possess a certain level of motivation in performing their tasks, making amotivation irrelevant for this study. Moreover, demotivating factors are not discussed in this study in any other form than the negative effect of extrinsic rewards in the long-run. Furthermore, behavioral outcomes are considered as employee behavior change, learning and development, as Burke (2014, 37) claims that gamification is implemented to change behaviors, develop skills and drive innovation. In addition, the reward contingency and timing are not studied as their decision relies on the behaviors gamification needs to deliver (Deci, Koestner & Ryan, 1999) that are reflected in the business objectives (Werbach & Hunter, 2012, 86; Burke, 2014, 90).

The research focuses on conditions in which engagement emerges rather than engagement as an outcome (Shuck & Rose, 2013). In the case of engagement of condition, gamification needs to shift from externally controlling mechanisms toward a user-centered design (Lens et al., 2012; Nicholson, 2012; Burke, 2014, 23). Hence, gamification needs to create meaningful conditions (Kahn, 1990; Ariely, 2012) for the employee to engage. The study does not focus on work involvement, which is only a cognitive state (May, Gilson & Harter, 2004). Gamification implies not only cognitive, but also emotional and behavioral engagement.

The present study does not consider the cultural differences that may influence employee motivation, even though the case companies are based in different markets. This is due to engagement gap being a global issue (Attridge, 2009; Bates, 2004; Saks, 2006) and case companies’ solutions aiming at the international market. In addition, gamification is examined from its ethical implementation, the solution not forcing employees to act against their interest. Unethical gamification will lead to legal and ethical concerns, and manipulation of employee behavior is not in the scope of successful gamification (Werbach & Hunter, 2012, 12-113).
1.7 Research methodology

The present work attempts to link motivation and engagement theories to gamification in order to develop theory on the topic of gamification. Therefore, the current research takes an abductive approach, which is advantageous (Sauders, Lewis & Thornhill, 2009, 127) by giving possibilities to capture the systematic character of both empirical world and theoretical models (Dubois & Gadde, 2002). Thus, abductive approach enables to use existing theory to understand the data and accommodate inconsistency of data by adjusting the theory (Sinkovics & Alfoldi, 2012).

Case study research was adopted as it is an appropriate method for phenomenon of which there is little knowledge (Eisenhardt, 1989), which is the case of gamification. The benefit of the case study method is the empirical inquiry that investigates the emerging phenomenon in its real-life context (Yin, 1994, 13). The study applies multiple-case approach in order to facilitate replication of the findings. The analytical conclusions derived from multiple-cases are more convincing than in single case (Yin, 2003a, 46-47; 2009, 53) in terms of accuracy and generalizability (Eisenhardt & Graebner, 2007; Saunders, Lewis & Thornhill, 2009, 146-147).

The sample consists of five enterprise gamification companies. Five cases is in the good range of the number of cases suggested by Eisenhardt (1989), and should generate convincing results through the replication logic, enhancing external validity. Five semi-structured interviews were conducted. The qualitative approach gives the possibility to have a more holistic view of the emerging phenomenon (Ikaivalko, 2004, 36). Data triangulation (Stake, 1995, 114) was implemented. The primary data collected through interviews was complemented with secondary data from webinars, blogs and company presentations. The data was transcribed and analyzed with the help of NVivo, a Computer-Aided Qualitative Data Analysis Software (CAQDAS). NVivo enhances effectiveness and transparency of qualitative research through efficient coding and retrieval (Sinkovics, Penz & Ghauri, 2008; Sinkovics & Alfoldi, 2012).
1.8 Outline of the study

Chapter 2 through Chapter 5 constitute the theoretical part of the study. Chapter 6 presents the research methodology, followed by Chapter 7 that introduces the empirical results and findings. Chapter 8 presents conclusions. Chapter 2 introduces concepts from gamification that fit the research problem. Chapter 3 investigates the self-determination and cognitive-evaluation theories. It studies intrinsic and extrinsic motivation, the internalization process, controlled and autonomous motivation. A closer look is given to the course of motivation by examining the two dimensions of motivation: the outcome-focused and means-focused motivation.

Chapter 4 studies the employee engagement from the perspective of personal engagement theory. It introduces the antecedents of employee engagement and the employee engagement model. Presentation of employee engagement as a motivational outcome is closing the chapter.

Chapter 5 is the key chapter of the report. It integrates the motivation and engagement theories introduced in Chapter 3 and Chapter 4 with enterprise gamification. This chapter explores gamification as a means to enhance employee motivation and engagement to drive behavior change.

Chapter 6 reports the research methodology. It introduces the case study research method, data collection and analysis processes. This is followed by Chapter 7 that describes the case companies and presents the research results. The key research findings of the study are also presented in Chapter 7.

Chapter 8 introduces the conclusions of the study. It provides theoretical implications that consist of ex-post theoretical model as a result of the empirical results and the case companies’ insights on the ex-ante model, and poses two propositions to be studied by future research. Managerial implications and suggestions for future research are provided. In addition, Chapter 8 discusses the limitations, reliability and validity of the study, and the generalizability of the findings.
2. GAMIFICATION

Games have become the world’s largest and fastest growing entertainment medium, computer games comprising a significant share of people’s time (Ryan, Rigby & Przybylski, 2006; Deterding et al., 2011). Businesses can base their strategies in engaging users on lessons learnt from games and their motivational pull. This requires an understanding of what makes games so engaging and what increases the player’s motivation to continue playing. Based on this rationale, there is a potential for game-like techniques for businesses in making non-game products more engaging and effective. (Ryan, Rigby & Przybylski, 2006; Deterding et al., 2011; Vassileva, 2012; Kosmadoudi et al., 2013; Mollick, 2014)

Werbach and Hunter (2012, 8) and Zichermann and Linder (2013, xii) state that game design techniques constitute means to attain engagement. In enterprise gamification, engagement constitutes a resource for the company (Kahn, 1990). As a result, Vassileva (2012) suggest to apply game-like elements that are motivational, to other contexts. To build an understanding how gamification can become a means to reach employee motivation to engage in predetermined behaviors, it is necessary to identify how gamification relates to games, what are the building blocks and the design process. This constitutes the goal of this chapter.

2.1 From games to gamification

Identifying the elements of games is important in order to detect which elements can be borrowed by businesses in driving behavior change. The present study considers Schell’s “elemental tetrad” (2008, 41), which consist of four equally important game elements: mechanics, story, aesthetics and technology. Game mechanics represents the space, which constitutes the “magic circle” (Ibid., 130) of the game, described by game components, behavior and control mechanisms, and defining the actions a user can implement within a game system to achieve a set goal while
following the game system’s set of rules (Hunicke, LeBlanc & Zubek, 2004; Schell, 2008, 129-169; Kosmadoudi et al., 2013).

The game mechanics need to facilitate a positive experience with the game. The design of mechanics needs to consider a balance between challenge and skills, meaningful choices, competition and cooperation, rewards, and freedom and controlled experience. (Schell, 2008, 171-205; Burke, 2014, 116) Game mechanics constitute an element of gamification (Deterding et al., 2011; Lee & Hammer, 2011; Zichermann & Cunninham, 2011; Gartner, 2012).

The story of a game stands for the goals, obstacles and conflicts a player faces in a game system. It constitutes the player’s journey and combined with game structures it leads to indirect control of the player by the system. (Schell, 2008, 261-298) This element is an essential part of gamification as any gamified system should have a clear goal for the user and build the user’s journey. The journey is the conceptual path that the user follows to progress in the framework of the gamified activities, creating the user’s overall experience. (Burke, 2014, 113-116; Werbach, 2014a)

Game aesthetics, the third element of elemental tetrad, plays a major role in creating the player experience with the game. This is due to aesthetics representing the front end of game experience. The aesthetics stand for a combination of representation tools that contain information necessary for the player to experience control over the actions. (Schell, 2008, 345-352; Kosmadoudi et al., 2013) Therefore, aesthetics is an essential part of a gamified system, since it is the touch point of the user with gamification due to its visibility. Alike game mechanics, game aesthetics is an element of the MDA (mechanics, dynamics and aesthetics) game design framework (Hunicke, LeBlanc & Zubek, 2004). From designer’s point of view, the mechanics lead to dynamic system behavior that results in an aesthetics experience when the user interacts with the system (Ibid.).
The common elements of the framework of game elements developed by Schell (2008) and the game design elaborated by Hunicke, LeBlanc and Zubek (2004) are the game mechanics and aesthetics, as illustrated in Figure 2. As a result of the literature review in this chapter, the game mechanics, aesthetics and story along with game dynamics are the elements that are applicable in contexts outside games. Thus, these elements constitute the basis of gamification.

![Figure 2. Building gamification from game elements and design (adapted from Hunicke, LeBlanc & Zubek, 2004; Schell, 2008; Kosmadoudi et al., 2013)](image)

Along with game elements, there are other components that have a more direct implication on gamification. Since games motivate users to engage with high intensity and duration, game elements have potential to turn other non-game products more engaging (Deterding et al., 2011). As a result, gamification requires an understanding of the motivational pull of games and the engagement processes that can be implemented in non-game context, such as businesses motivating and engaging employees. These factors will be looked at in detail in the next chapters.
2.2 Defining gamification

Gamification as a term originated in the digital media industry. The first documented use dates back to 2003, but the term did not see widespread adoption before 2010, when it appeared on Google Trends. However, the meaning of the term has changed from its initial connotation. (Deterding, et al., 2011, 9; Huotari & Hamari, 2012; Werbach & Hunter, 2012, 25-26; Burke, 2014, 5-6)

There is still confusion of what gamification represents, being perceived as games, serious games or game theory. Although there are some common elements of gamification and games, gamification is about motivation (Burke, 2014, 139-140). The difference between gamification and serious games is that gamification uses parts of games, while serious games constitute actual games for various purposes (Deterding, et al., 2011; Hamari, 2013). Gamification is not related to game theory since it is not related to negotiation situations or mathematical models (Werbach & Hunter, 2012, 25-26). In order to diminish the misunderstanding of the concept, existing definitions of gamification are summarized in table 1.

Based on table 1, the term does not have a widely accepted definition. However, most of them share common characteristics such as game mechanics, game design and the context of application, which is mostly related to a desired behavior: solve problems, shape learner’s behavior, achieve goals, create value and other contexts. The two most quoted definitions of gamification are the one of Deterding et al. (2011) in Nicholson (2012), Rapp (2013), Salcu & Acatrinei (2013), and the definition of Werbach & Hunter (2012) cited in Dominguez et al. (2013) and Leeson (2013).
Table 1. Definitions of gamification

<table>
<thead>
<tr>
<th>Authors &amp; Year</th>
<th>Context</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deterding et al. (2011)</td>
<td>User motivation, user activity and retention</td>
<td>“the use of game design elements in non-game context” (9)</td>
</tr>
<tr>
<td>Zichermann &amp; Cunningham (2011)</td>
<td>User-engagement</td>
<td>“the process of game-thinking and game mechanics to engage users and solve problems” (xiv)</td>
</tr>
<tr>
<td>Lee &amp; Hammer (2011)</td>
<td>Education, desired behaviors</td>
<td>“the use of game mechanics, dynamics, and frameworks to promote desired behaviors” (1)</td>
</tr>
<tr>
<td>Huotari &amp; Hamari (2011)</td>
<td>Service marketing, user’s value creation</td>
<td>“a form of service packaging where a core service is enhanced by a rules-based service system that provides feedback and interaction mechanisms to the user with an aim to facilitate and support the users’ overall value creation” (2)</td>
</tr>
<tr>
<td>Gartner (2012)</td>
<td>Customer and employee engagement, innovation management and health</td>
<td>“the use of game mechanics and experience design to digitally engage and motivate people to achieve their goals”</td>
</tr>
<tr>
<td>Huotari &amp; Hamari (2012)</td>
<td>Service marketing, user’s value creation</td>
<td>“a process of enhancing a service with affordances for gameful experiences in order to support user’s overall value creation” (3)</td>
</tr>
<tr>
<td>Werbach &amp; Hunter (2012)</td>
<td>Internal and external gamification, behavior change</td>
<td>“the use of game elements and game-design techniques in non-game context” (26)</td>
</tr>
<tr>
<td>Zichermann &amp; Linder (2013)</td>
<td>Loyalty programs, behavioral economics, user engagement</td>
<td>“implementing design concepts from games, loyalty programs, and behavioral economics to drive user engagement” (xii)</td>
</tr>
</tbody>
</table>
According to Huotari and Hamari (2012), and Hamari (2013), the role of gamification is to facilitate same psychological experiences as in games, emphasizing on the psychological outcomes that are generated from motivational affordances and result in behavioral outcomes. Motivational affordances represent how an action can satisfy one’s motivational needs (Deterding, 2011). Deterding et al., (2011) omitted the psychological experience and the outcomes in their definition (Hamari, Koivisto & Sarsa, 2014). However, these aspects are at the core of the present study. Therefore, the working definition of the present study is adopted from Werbach and Hunter (2012, 20) as the use of game elements and game design techniques to motivate employees to engage in behaviors encouraged by the gamified system.

2.3 Building blocks of gamification

After a review of existing limited literature on gamification, the main building blocks that constitute gamification are the game elements, game design and an understanding of motivation and engagement. The most known game elements applied in gamification are points, badges and leaderboards, which have their advantages, but also limitations (Werbach & Hunter, 2012, 71; Hamari, Koivisto & Sarsa, 2014; Werbach, 2014b). Points are effective in keeping score, they create a connection between progression and extrinsic rewards and can be seen as quick feedback for the user. Badges constitute a visual representation of achievement in a gamified system. Badges provide goals for employees which have an impact on their motivation, representing a status symbol of the user. Leaderboards enables a context of progression relative to peers. Leaderboards can motivate or demotivate, considering that users differ in their motivation to engage. (Werbach & Hunter, 2012, 69-77) Points, badges and leaderboards triad represent progress and achievement during the user’s journey in gamification, not the achievement itself (Burke, 2014, 129).
According to Werbach and Hunter (2012, 69-83), there are three categories of game elements that are applicable to gamification: components, mechanics and dynamics. Dynamics represent the large objective of the gamified system and consist of constraints, emotions, narrative, progression and relationships, which constitute the elements of the taxonomy of games supported by Hunick, LeBlanc and Zubek (2004). Dynamics are abstract because they are designed to drive motivation toward action. The mechanics stand for the processes that generate player engagement in order to reach one or more of the dynamics. The key game mechanics applied in gamification are challenges, chance, competition and cooperation, feedback, rewards, transactions, win states and other elements. Components are a specific form of mechanics and dynamics. In addition to points, badges and leaderboards, the components consist of achievement, content unlocking, levels, social graphs, teams, virtual goods and other components. (Werbach & Hunter, 2012, 71-83) The gamification elements form a pyramid, as illustrated in figure 3.

![Figure 3. Gamification elements hierarchy (adapted from Werbach & Hunter, 2012)](image-url)

The gamification elements are placed in a hierarchy, dynamics having the highest level of abstraction, constituting the big picture of the gamification...
solution. While the level of abstraction increases from components all the way to dynamics, the number of elements decreases. Moreover, each level is tied to the higher level elements. (Werbach & Hunter, 2012, 78-83; Werbach, 2014c)

Based on the Schell’s (2008, 41-45) elemental tetrad illustrated in figure 2, aesthetics is an essential element of game design because it builds the experience of the user with the system. Furthermore, the mechanics and dynamics from the MDA framework developed by Hunicke, LeBlanc and Zubek (2004) are contained in the gamification elements pyramid, while aesthetics is left out. Therefore, in figure 3 aesthetics surrounds the pyramid because it aims through the gamification elements to build the user experience with the gamification solution. Along with aesthetics, a gamified solution should implement a user-centric design that aligns the user’s goals and motivation with the system’s goals (Lens et al., 2012; Nicholson, 2012; Burke, 2014, 23).

2.4 Gamification design process

The design process of gamification has been elaborated by Werbach and Hunter (2012, 85-102) and by Burke (2014, 89-125). The steps of the two processes and their similarities are illustrated in Appendix 2. Based on the two proposed processes, the design process of a gamified system was elaborated for the present study that combines the common steps and address the motivation and engagement aspects that are the focus of the present study. The design process is introduced in figure 4.

Defining the business objectives is the starting point in the gamification design process. Depending on the type of business outcome a company wants to reach, the design of the gamified system varies accordingly. Burke (2014, 9) highlights that the user’s goals need be aligned with the organizational goals. Moreover, the business objectives should follow Doran’s (1981) way of setting objectives: specific by targeting a certain
domain for improvement, measurable, realistic and time-bounded. The objectives need to also be assignable by specifying whom they are targeted at. Moreover, the objectives should not be entirely quantified, but leave space for more abstract objectives in order to reach quantification. (Werbach & Hunter, 2012, 87-88; Burke, 2014, 99-100) The target audience for the present study are employees.

The delineation of target behavior needs to be specific and accompanied by success metrics that will monitor the implementation of the gamified system. The metrics should measure whether the desired behavior of the users are reached and should inform if changes are to be implemented. In order to reach the target behavior, the gamification developers should understand the users' motivation and goals that will enable the development of a user-centric design of the gamified solution. The player typology model developed by Bartle (1996), which is based on the player behavior, is one of the player typologies in games. However, it has been widely accepted as the model to understand users in gamification (Dixon, 2011; Zichermann & Cunningham, 2011, 21). For the purpose of the present study, the focus is on employees who are the users of the gamified solution. Thus, the players were substituted with users. The world is represented by the environment
created with the help of gamification. As a result, the adapted model from Bartler (1996) to the current thesis is introduced in figure 5.

Figure 5. Bartle’s user typology (adapted from Bartle, 1996)

Understanding the *user typology* is part of the design process since each category of users differs in their motivations and behaviors in the gamified system (Bartle, 1996; Dixon, 2011). Achievers are motivated by goals of the gamified system and are interested in gathering points and leveling-up. Achievers seek challenges and competitiveness within the gamification system. On the other hand, killers are competitive. Rewards and point scoring are important for this group, but leaderboards are more effective in building visibility of their achievements. Killers are concerned to act on other players. The third category of users are explorers. Explorers’ goals are to interact with the gamification solution, progression and narratives being important drivers for this type of players. The last category of users are represented by socializers, whose goal is to build relationships and a sense of relatedness with other users of the gamified solution. Cooperation is more important than competition, since socializers are motivated to interact with other users. (Bartle, 1996; Ryan, Rigby & Przybylski, 2006; Schell, 2008, 110-111; Zichermann & Cunningham, 2011, 21-23; Werbach & Hunter, 2012, 91-94) When considering the users of gamification, Bartle (1996), Zichermann and Cunningham (2011, 23), and Werbach (2014d) highlight that users’ type might change with the gained experience, making the four typologies mutually inclusive rather than exclusive.
Based on the user type, the gamification solution addresses the *engagement loops* that represent the micro level of the employee’s actions. It consists of employee’s actions that result from the motivation followed by feedback from the system in the form of responses, such as rewards and other gamification components. The feedback recognizes the employee’s effort and develops motivation to take further actions in the gamified system. This engagement model is a continuing process. Engagement loops maintains the progression of the employees. The journey constitutes the macro level of the *employee’s journey*, describing the path to be taken through the gamification solution, from the first step of onboarding to advanced levels by balancing the challenge and employee skills along the progression. (Werbach & Hunter, 2012, 94-98; Burke, 2014, 110-116)

The next step in the process of gamification design is *deploying the appropriate set of tools* that define the space of the gamification system. The elements of gamification that constitute the space, create the set of rules within the system. A gamification solution does not require to implement all the gamification elements, but their selection and combination should be considered when analyzing the user actions in the gamified system. (Werbach & Hunter, 2012, 81-83) Once the gamification solution is developed, it is *tested* and changes are made accordingly to meet the business objectives. The initial launch of the gamified system needs to contain enough features to engage the target audience. With the *iterations*, the developers need to learn about the employees’ interaction with the solution, continuously developing the features of the system. (Burke, 2014, 123-125)

Gamification is a means of motivating and engaging employees (Nicholson, 2012; Werbach & Hunter, 2012). Moreover, it draws on disciplines of psychology, behavioral science and emergent systems. (Burke, 2014, 9, 89). These two perspectives are introduced in the following chapters.
3. EMPLOYEE MOTIVATION

Work motivation has attracted attention of researchers due to its relation to work outcomes. It originates from the Maslow’s needs-hierarchy theory (Maslow, 1954), which is applied in the field of management, and its relation between the needs and attitudes toward work. Work environment is essential for effective performance in terms of output, sales, profitability, work quality and reduced absenteeism. (Ryan & Deci, 2000b; Baard, Deci & Ryan, 2004, 2045; Gagné & Deci, 2005; Phipps, Prieto & Ndinguri, 2013)

Motivation relates to aspects of activation and intention that lead to an individual action. Motivation is highly valued due to its consequences, in particular engagement in a certain behavior. Motivation can be different in its cause, being it the value of the activity perceived or reasons external to oneself. Motivation varies in its level from very little motivation to act to an extended level of motivation to engage in a certain behavior. (Ryan & Deci, 2000a; Ryan & Deci, 2000b)

According to Burke (2014, 37), gamification is implemented mainly to change behaviors, develop skills and drive innovation. However, employees face challenges in engaging in behaviors that are effective at the workplace, when the activities are not interesting, thus not intrinsically motivating. Developing the willingness of employees to change behaviors or develop skills are of high value to companies. (Deci et al., 1994; Ryan & Deci, 2000b; Gagné & Deci, 2005) Enterprise gamification was implemented by Ford Motor Company in Canada to train and support sales and service employees to deliver better customer service and increase sales. By week five, the actions per employee doubled and the total actions increased by 60 percent improving the sales performance and customer satisfaction indicators. (Bunchball, 2014)

The research community has been studying ways to attract participation through reward mechanisms inspired from behavioral science theories that
can motivate users to engage and change behaviors in desirable ways (Vassileva, 2012). Studies of the conditions that facilitate positive employee outcomes have theoretical and practical significance since their results are valuable in designing work environments that enhance performance. The self-determination theory is concerned with these conditions. (Ryan & Deci, 2000b) For the purpose of the present research, employee motivation built with the help of gamification, is based on motivational theories borrowed from psychology, in particular on self-determination theory and cognitive evaluation theory. Self-determination theory enables to design work environments that will facilitate personnel's integration in the work environment and goals of the organization, while the latter provides an understanding of the effects of different types of motivations.

3.1 Self-Determination Theory

According to Ryan (1995) and Ryan and Deci (2000a), motivation is hardly seen as a unitary phenomenon, rather employees differ in the level of motivation and in the orientation of that motivation. While the level of motivation concerns with its intensity, the orientation of motivation relate to the individual’s attitudes and goals that generate an action. Thus, there are different kind of motivation, the widest accepted distinction being between intrinsic and extrinsic motivation. (Ryan, 1995; Ryan & Deci, 2000a; Ryan & Deci, 2000b; Gagné & Deci, 2005; Alhaji & Yusoff, 2012)

Intrinsic motivation refers to an engagement into an activity, even in the absence of rewards, because it is inherently interesting and one derives satisfaction from the activity itself. Under intrinsic motivation, behaviors are not a function of control or rewards. In contrast, extrinsic motivation generates an engagement in an activity because it leads to an outcome. Satisfaction comes from the extrinsic activities generated from the activity consequences rather than from the activity itself. As a result, extrinsic motivation needs an instrumentality, such as tangible rewards, between the activity and its consequences. (Rummel & Feinberg, 1988; Ryan, 1995;
Deci, Koestner & Ryan, 1999; Ryan & Deci, 2000a; Ryan & Deci, 2000b; Gagné & Deci, 2005)

Although intrinsic motivation is an essential part of motivation, not all the activities employees need to engage in are intrinsically rewarding. Thus, the question is how to acquire motivation to execute these activities in a way that generates commitment and high-quality performance. At this point, the extrinsic rewards could be implemented. (Ryan, 1995; Ryan & Deci, 2000b; Gagné & Deci, 2005) Nonetheless, a considerable amount of studies have concluded that intrinsic motivation is important to behavioral persistence of employees (Gagné & Deci, 2005; Hagger & Chatzisarantis, 2011). Thus, there is a need to understand the typologies of motivation and how they translate from extrinsic to intrinsic motivation, by taking into account the conditions that facilitate this transition.

The distinction between amotivation, which is the lack of motivation, and extrinsic and intrinsic motivation is reflected in the self-determination theory (Ryan, 1995; Ryan & Deci, 2000a; Gagné & Deci, 2005). Self-determination theory is a meta-theory on human motivation. It highlights the importance of inner resources development for behavioral self-regulation. It constitutes a comprehensive framework of antecedent factors that affect intrinsic motivation, being they environmental or interpersonal factors. (Ryan & Deci, 2000b; Hagger & Chatzisarantis, 2011) It also examines social environments under which self-determination emerges. The self-determination theory examines intrinsic motivation, as well as the analysis of the individual’s self-regulation and progressive assimilation of extrinsic contingencies into self-motivators. (Deci et al., 1994; Ryan & Deci, 2000b)

According to self-determination theory, there are three psychological conditions that constitute self-determination. These psychological needs are the need for competence, autonomy and relatedness. The need for competence is concerned with succeeding at optimally challenging tasks, ability to reach desired outcomes from the activities and obtaining positive
reinforcing feedback. The need for autonomy relates to the experience of choice in the absence of external controls, empowering the user to feel like the initiator of his actions. Relatedness is important in establishing relationships and a sense of reliance with others. (Deci et al., 1994; Ryan, 1995; Deci, Koestner & Ryan, 1999; Ryan & Deci, 2000b; Baard, Deci & Ryan, 2004; Gagné & Deci, 2005) Understanding the conditions that support autonomy, competence and relatedness is necessary in designing intrinsically motivated behaviors (Ryan, 1995).

Baard, Deci and Ryan (2004) have tested this need-satisfaction model at workplaces and found out that the satisfaction of these three intrinsic needs can be achieved through the employees' autonomy orientation and their perception of the managers' autonomy support. Autonomy support involves the managers' acknowledgement of the employee perspective, providing meaningful information and opportunities for choice, resulting in an encouragement of self-determination. (Deci et al., 1994; Baard, Deci & Ryan, 2004). The results of the study conducted by Baard, Deci and Ryan (2004) support the relevance of self-determination theory for the motivation at the workplace.

An additional key concept of self-determination theory is perceived locus of causality, which constitutes the extent to which individuals perceive their actions as generated by internal or external factors (Turban, Tan, Brown & Sheldon, 2007; Hagger & Chatzisarantis, 2011). Perceived locus of causality measures the autonomy felt by an individual for a certain behavior and ranges on a continuum from internally motivated to externally motivated behaviors. Internal perceived locus of causality represents an individual’s actions caused by internal factors, while the external perceived locus of causality is caused by external factors. Self-determination theory suggests that when individuals experience an internal perceived locus of causality, they will invest more effort and receive greater satisfaction in performing a behavior than in the case of an external perceived locus of causality. The perceived locus of causality is tied to the need of autonomy, such that higher
internal perceived locus of control indicates greater autonomy for the behavior. (Deci, Koestner & Ryan, 1999; Deci & Ryan, 2000; Ryan & Deci, 2000b; Turban et al., 2007)

Central to self-determination theory is the distinction between two types of motivation, which are autonomous and controlled motivation (Ryan & Deci, 2000b; Gagné and Deci, 2005). Autonomous motivation relates to the experience of choice which resembles the psychological need for autonomy. Autonomous motivation represents the highest level of self-determination, the individual experiencing an internal perceived locus of control, engaging in self-determined behavior. On the other hand, controlled motivation involves a sense of pressure to engage in a behavior and the individual sees an external perceived locus of causality, leading to a behavior controlled by an external regulation (Deci et al., 1994; Gagné & Deci, 2005). Self-determination theory suggests that extrinsic motivation can vary in its degree of autonomy (Ryan & Deci, 2000a; Ryan & Deci, 2000b; Gagné & Deci, 2005).

3.2 Self-determination model of internalization

Amotivation represents the lack of motivation. According to self-determination theory, amotivation is caused by the lack of efficacy or sense of control related to a desired outcome. (Deci & Ryan, 2000; Ryan & Deci, 2000a) At the other end of the self-determination continuum is intrinsic motivation. Behaviors regulated by intrinsic motivation are done for their inherent satisfaction and enjoyment rather than for separable consequences. This represents the highest level of autonomous motivation. Intrinsically motivated behaviors are conflict-free with an internal perceived locus of causality. (Ryan, 1995; Gagné & Deci, 2005) For the purpose of this study, the focus is on the continuum of self-determination that ranges from extrinsic to intrinsic motivation to reach personal commitment, the continuum of extrinsic motivation on which gamification relies.
The challenge faced in employee motivation is how to motivate employees to value and self-regulate activities and to carry them out independently without external regulation (Ryan, 1995; Ryan & Deci, 2000a). This can be achieved through the internalization of values and behavioral regulations. Internalization is defined as the process of assimilation of values, attitudes and regulatory structures, transforming external regulations into internal regulations by integrating those regulations into one’s self. As a result, it no longer requires an external contingency. Based on self-determination theory, internationalization refers to three different processes that are introjection, identification and integration, which constitute three of the four regulatory styles characteristic to extrinsic motivation, the fourth being external regulation, as illustrated in figure 6. (Deci et al., 1994; Ryan, 1995; Ryan & Deci, 2000a; Gagné & Deci, 2005).

External regulation represents the least autonomous form of extrinsic motivation. The behavior driven by external regulation is performed to meet an external demand in order to get an external reward or to avoid punishment. In the case of controlled motivation, an individual experiences an external perceived locus of control, their behavior being entirely controlled. (Ryan, 1995; Deci & Ryan, 2000; Ryan & Deci, 2000a; Ryan & Deci, 2000b) A regulation that has been taken in but has not been accepted as one’s own calls for introjected regulation. As a result, the regulation is internal to the person because of the pressure to attain ego-involvement, enhance self-esteem and self-approval. Introjected behaviors have an external locus of causality and constitutes an interpersonal controlled state of internalized extrinsic motivation, prevailing as contradicting and external to one’s self. (Ryan, 1995; Deci et al., 1994; Ryan & Deci, 2000a; Ryan & Deci, 2000b; Gagné & Deci, 2005; Turban et al., 2007) The distinction between external and introjected motivation is that external motivation is perceived by an individual as externally controlling, while the introjected motivation is seen as controlled by internal forces of one’s self (Turban et al., 2007).
Figure 6. The self-determination continuum (adapted from Ryan, 1995; Deci & Ryan, 2000; Ryan & Deci, 2000a; Ryan & Deci, 2000b; Gagné & Deci, 2005)
A more autonomous and self-determined form of extrinsic motivation is identified regulation. This is the process through which an individual accepts and values the underlying value of a behavior, aligning it with personal goals, this resulting in a more internal perceived locus of control. Despite the relative autonomy, the identification cannot be fully integrated. (Ryan, 1995; Gagné & Deci, 2005) Identified regulations are expected to be better maintained by users, because they identify themselves with the goals of the system, generating higher commitment and performance (Deci & Ryan, 2000). The most complete form of internalization is extrinsic motivation facilitated by integrated regulation. Integrated regulation is characterized by coherence among the employee’s and regulation’s goals and values, inducing self-regulation. Integrated regulation is characterized by internal perceived locus of control. Thus, one’s extrinsically motivated actions become self-determined, building autonomous motivation. (Ryan, 1995; Deci & Ryan, 2000; Ryan & Deci, 2000a; Ryan & Deci, 2000b; Gagné & Deci, 2005)

Integrated regulation constitutes the most advanced form of extrinsic motivation (Deci et al., 1994; Deci & Ryan, 2000). It shares some characteristics with another autonomous motivation type, more specifically, intrinsic motivation. Despite the shared qualities, integrated regulation cannot take the form of intrinsic motivation because the behavior motivated by integrated regulation is attained for its instrumental value for personal goals rather than inherent enjoyment and interest in the activity. (Ryan, 1995; Ryan & Deci, 2000a; Ryan & Deci, 2000b; Gagné & Deci, 2005) The self-determination model of internalization is not a stage theory. One can internalize a new behavioral regulation at any time along the continuum to self-determination building upon the situational factors and representing a certain degree of autonomous motivation. (Ryan & Deci, 2000a; Ryan & Deci, 2000b; Gagné & Deci, 2005)

To conclude, the challenge is how to promote the autonomous motivation of behaviors that result from extrinsic motivators. According to Deci et al.
(1994) and Ryan and Deci (2000a), the social context in terms of autonomy support enables internalization and it represents the critical element for the regulation to be integrated rather than introjected. To internalize a regulation and shift from controlled to autonomous motivation, it is necessary to support not only the need for autonomy, but also the other two psychological needs, the need for competence and relatedness. However, only in contexts that meet the autonomy need will facilitate integrated self-regulation. (Deci & Ryan, 2000; Ryan & Deci, 2000a; Gagné & Deci, 2005) Moreover, there are three contextual events that facilitate integrated internalization, these being providing meaningful rationale to the user, acknowledging the user’s perspective and communicating choice rather than control (Deci et al., 1994). The meaningful rationale is related to the need of competence by grasping the rationale behind the regulation. To conclude, the social conditions that meet the psychological needs of relatedness, competence and autonomy are more likely to lead to internalization of the regulation, resulting in engagement in the target activity. (Deci & Ryan, 2000)

3.3 Cognitive Evaluation Theory

The relationship between extrinsic and intrinsic motivation is considered to be positively and negatively interactive rather than additive. (Deci, Koestner & Ryan, 1999; Gagné & Deci, 2005; Alhaji & Yussof, 2012) The effects of extrinsic motivation on intrinsic motivation is explained in the cognitive evaluation theory, which is a sub-theory of self-determination theory. Furthermore, cognitive evaluation theory studies the factors in social contexts that generates variability in intrinsic motivation. (Ryan & Deci, 2000a; Ryan & Deci, 2000b)

Deci (1971) argued that motivation for activities that provide inherent reward is not dependent on external rewards, yet, the tangible rewards might undermine the intrinsic motivation for an interesting activity. In the case of intrinsic motivation, the cause of behavior was associated with an internal locus of causality. (Deci, 1971; Deci & Ryan, 2000; Ryan & Deci, 2000b)
Thus, under the conditions of extrinsic rewards, intrinsically motivated individuals faced a cognitive reevaluation process of the activity being intrinsically motivated to an anticipation of external rewards. This results in an engagement in a behavior only in the presence of future external rewards. This led to change in the perceived locus of causality from internal to external. As a consequence, one’s intrinsic motivation is diminished. (Deci, 1971; Deci & Ryan, 1980, 46; Rummel & Feinberg, 1988; Ryan, 1995) However, this undermining effect has not been widely accepted (Rummel & Feinberg, 1988; Deci, Koestner & Ryan, 1999). There are two streams of research, one supporting the undermining effect (Rummel & Feinberg, 1988; Wiersma, 1992; Deci, Koestner & Ryan, 1999) and the other rejecting it (Cameron & Pierce, 1994). The summary of meta-analyses of these studies is introduced in table 2. Meta-analyses were considered for the purpose of this study because of their comprehensiveness and coverage of large number of earlier studies.

The meta-analyses conducted by Rummel and Feinberg (1988), Wiersma (1992) and Deci, Koestner and Ryan (1999) supported the undermining effect of extrinsic rewards on intrinsic motivation and proved the validity of cognitive evaluation theory. Wiersma (1992) measured the subject’s degree of interest in the task, while Deci, Koestner and Ryan (1999) differentiated between interesting and uninteresting activities, concluding that tangible rewards undermine intrinsic motivation for interesting tasks. Moreover, distinguishing between informational and controlling verbal rewards led to the prediction that positive feedback provided an informative way to enhance intrinsic motivation, while positive feedback administered in a controlled manner affected intrinsic motivation. The controlling aspect builds instrumentalities between behavior and rewards, while the informational aspect provides information about self-competence. (Deci, 1971; Deci & Ryan, 1980; Deci, Koestner & Ryan, 1999; Ryan & Deci, 2000a; Hagger & Chatzisarantis, 2011).
Table 2. Prior meta-analyses of the effects of externally mediated rewards on intrinsic motivation

<table>
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<tr>
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<th>Results</th>
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<tr>
<td>Rummel &amp; Feinberg (1988)</td>
<td>A meta-analysis reviewing 44 studies published between 1971 and 1985, obtained through computer based information search were reviewed, reporting 88 effects sizes.</td>
<td>Studies that involved controlling rewards: 1. studies that tested the basic relationship of detrimental effect of extrinsic rewards on intrinsic motivation 2. extrinsic rewards conveyed controlling information to the subject 3. sufficient reported results reported in studies to calculate the effect size.</td>
<td>The subject’s degree of interest in the task and free-time performance.</td>
<td>Of the 88 effect sizes reported, 83 exhibited the undermining effect, and only five showed enhancement of extrinsic rewards on intrinsic motivation. The authors concluded that the meta-analysis proved support for the undermining effect.</td>
</tr>
<tr>
<td>Wiersma (1992)</td>
<td>A meta-analysis based on 20 studies, published between 1971 and 1990, reporting 28 effect sizes.</td>
<td>Published studies that included: 1. extrinsic rewards as money, did not consider verbal extrinsic rewards 2. contingently and non-contingently applied rewards 3. studies with adults subjects.</td>
<td>Task behavior during free-time and task-performance.</td>
<td>Results from 16 studies with a free-choice measure supported the undermining effect of rewards on intrinsic motivation. Results also reported that rewards enhanced performance, in the experiments that used performance measures.</td>
</tr>
<tr>
<td>Cameron &amp; Pierce (1994)</td>
<td>A meta-analysis including 83 documents reporting 96 independent studies, published between 1971 and 1991, selected through a computer search on the psychological literature.</td>
<td>Two sets of studies were considered: between-group and within-subject designs. The criteria for studies: 1. involving an experimental manipulation of a reward, containing a non-rewarded control group 2. identical representation of rewarded and non-rewarded groups 3. published studies.</td>
<td>Free-choice behavior and self-reported attitudes.</td>
<td>Results state that rewards do not significantly affect intrinsic motivation on free-choice behavior. Rewards do not diminish the willingness to work on activities. Verbal rewards increase intrinsic motivation on both measures. Tangible rewards delivered unexpectedly have no effect on intrinsic motivation. No effect for task completion contingent rewards and task-noncontingent on either measure. Rewards are detrimental only when offering a tangible reward regardless of the level of performance.</td>
</tr>
<tr>
<td>Deci, Koestner &amp; Ryan (1999)</td>
<td>Two primary meta-analysis: free-choice persistence and self-reported interest. The analysis contained 128 studies from 94 published articles and 19 dissertation studies, identified from published articles and unpublished dissertations.</td>
<td>All studies were laboratory experiments or under well-controlled laboratory like experiments, with at least one experimental and one control group. Included only studies with no-reward control groups.</td>
<td>Free-choice behavior and self-reported interest.</td>
<td>Results for free-choice behavior and self-reported interest measures identified a significant undermining effect by tangible rewards, expected rewards, engagement-contingent rewards, completion-contingent rewards. Tangible rewards exhibited significant negative effects for interesting tasks, while positive feedback showed significant positive feedback on intrinsic motivation for both studies.</td>
</tr>
</tbody>
</table>
The meta-analysis performed by Cameron and Pierce (1994) indicated that rewards do not decrease intrinsic motivation. Verbal rewards increase intrinsic motivation, having negative effect only when expected tangible rewards are given for performing a task. Cameron and Pierce (1994) encouraged implementing incentive systems due to the lack of undermining effect. These findings generated contradiction in the field of motivational theory researchers. Ryan and Deci (1996) concluding that Cameron and Pierce (1994) ignored the different types of rewards, which led to the lack of support for the cognitive evaluation theory in their meta-analysis.

Understanding the effects of rewards demands reflection on the recipient’s interpretation of the rewards in relation to their self-determination (Deci, Koestner & Ryan, 1999). In case of interesting activities, cognitive evaluation theory considers if the rewards are expected and on what behaviors rewards are contingent. Reward contingency consist of task-noncontingent, task-contingent and performance-contingent rewards (Ryan, Mims & Koestner, 1983). Task-noncontingent rewards constitute expected rewards that are provided for participation rather than for engagement in the target activity, ignoring the completion or quality of task activity. Task-contingent rewards represents rewards that are given for completing a task, without respect to the quality of performance. Task-contingent rewards consists of completion-contingent rewards, for completing a task, and engagement-contingent rewards, for engaging in the activity. Performance-contingent rewards stand for rewards that are provided for performing at a specified level of competence. (Ryan, Mims & Koestner, 1983; Ryan & Deci, 1996; Deci, Koestner & Ryan, 1999)

Rewards might have a detrimental effect on intrinsic motivation (Deci, Koestner & Ryan, 1999) being experienced by employees as controlling. Engagement-contingent rewards are more likely to be experienced as controlling the task behavior, in this way predicting to undermine intrinsic motivation. Completion-contingent rewards are expected to be experienced even more controlling than engagement-contingent rewards because the
task needs to be completed to receive the reward. However, this implies a level of competence. This level is not sufficient to overcome the undermining effect. On the other hand, the performance-contingent rewards conveys positive competence information, diminishing the negative effects of control. (Ryan, Mims & Koestner, 1983; Deci, Koestner & Ryan, 1999; Hagger & Chatzisarantis, 2011) In addition to the need of competence, cognitive evaluation theory considers the subject in relation to his feelings of autonomy. Autonomy is analyzed against the sense of control, which shifts the perceived locus of causality. Thus, rewards that satisfy the psychological needs of autonomy and competence will tend to increase intrinsic motivation. (Cameron & Pierce, 1994; Deci, Koestner & Ryan, 1999; Ryan & Deci, 2000b) The practical implication is to design optimally challenging activities, providing positive feedback to facilitate intrinsic motivation by building a sense of competence and autonomy (Ryan, 1995; Ryan & Deci, 2000a; Gagné & Deci, 2005). How motivation changes in pursuing a goal is important and it is introduced in the following chapter.

3.4 Course of motivation and future-orientation

The strength of motivation over the course of pursuing a goal can change. Identifying factors that influence motivation is important to understand in which way motivation changes. The course of motivation induces that motivation can take a cyclical pattern depending on the length of the goal pursuit and the type of tasks involved. (Touré-Tillery & Fishbach, 2011) As a result, the course of motivation contains a sense of temporal aspect, as motivation evolves over the time of pursuing a focal goal. Touré-Tillery and Fishbach (2011) distinguish two main dimensions of motivation: the outcome-focused motivation and means-focused motivation.

Outcome-focused motivation constitutes the effort and persistence targeted at reaching a goal (Brehm & Self, 1989; Locke & Latham, 1990; Touré-Tillery & Fishbach, 2011). The outcome-focused motivation increases as the distance to the goal decreases, researchers referring to this
phenomenon as the goal-gradient effect, one’s effort being a function of smaller goal distance (Kivetz, Urminsky & Zheng, 2006; Nunes & Drèze, 2006) Understanding the goal-gradient for human psychology of rewards is important. Moreover, psychological distance from outcomes and goals affects one’s decision making and behavior. Goal-gradient is a construct of motivation in terms of physical and mental effort. (Kivetz, Urminsky & Zheng, 2006; Touré-Tillery & Fishbach, 2011)

The value of an activity increases as one’s personal goals within the activity are relevant and have an effect on performance (Locke & Latham, 1990; Higgins et al., 2003). Thus, the marginal value of each new action towards reaching the goal enhances over the course of goal pursuit, resulting in an increase in motivation as the distance to the goal decreases (Kivetz, Urminsky & Zheng, 2006; Touré-Tillery & Fishbach, 2011). Therefore, the pulling force of a goal’s end state constitutes a characteristic of goal-driven processes. Thus, persistence of activation of goal-related constructs until fulfilment builds accessibility to the goal’s end state, at the point when motivation is inhibited. (Förster, Liberman & Higgins, 2005; Touré-Tillery & Fishbach, 2011) The outcomes-focused motivation is an S-shaped function. This means that the outcomes of goal pursuit that are close to goal fulfillment have a greater marginal impact when they are approaching the goal’s end state, where the loss function is steep, than when they are distant from the end goal. (Touré-Tillery & Fishbach, 2011)

According to Touré-Tillery and Fishbach (2011), the motivation over the course of goal pursuit can decrease due to few factors, such as diminished goal accessibility which is specific to ongoing goals that are never fully completed. A solution to this problem is to design sub-goals for the larger pursuits, to reduce the psychological distance to the larger goal (Kivetz, Urminsky & Zheng, 2006; Touré-Tillery & Fishbach, 2011). Another factor is the difficulty of goal-related tasks that can cause reduction of the psychological resources in pursuing a single goal or goals requiring multiple steps. However, when resources are renewed, motivation becomes a
cyclical down-and-up pattern depending on the length of goal pursuit and the tasks required. Multiple goal pursuit can decrease or increase the motivation to pursue the focal goal, depending on the distance to goal attainment. However, motivation is enhanced when actions signal commitment, but diminishes when signaled that sufficient progress has been made in pursuing the goal. Moreover, choice can communicate commitment or progress. As a result, the meaning of actions shapes the course of motivation. (Touré-Tillery & Fishbach, 2011)

The other dimension of motivation is means-focused motivation that stands for the usage of right means in the process of goal pursuit and deriving value from the strategic manner in which the goal is reached (Higgins et al., 2003; Touré-Tillery & Fishbach, 2011). According to Higgins et al. (2003) and Higgins (2005), when pursuing a goal in a way that supports one’s regulatory orientation, a regulatory fit is experienced, creating value to the individual, increasing engagement. In some cases, the standards for the means-focused motivation are loosened because of the benefits of outcome-focused motivation, such as saving time or gaining additional resources. As a result, the means-focused motivation is a U-shaped function, the motivation signaling greater value at the beginning and end of the focal goal pursuit, while lacking in the middle due to the use of mental or physical shortcuts. Having sub-tasks within the focal goal pursuit should encourage individuals to adhere to their standards, while the gap between the current and end state is shortened. (Touré-Tillery & Fishbach, 2011)

The curves of S-shaped outcome-focused motivation and the U-shaped means-focused motivation are illustrated in figure 7. These curves were developed based on the article of Touré-Tillery and Fishbach (2011). Figure 7 illustrates the difference between these two functions, in terms of marginal value derived from actions over the course of motivation.
The coexistence of these two dimensions of motivation, the outcome-focused and means-focused motivation, has important implications for the course of goal pursuit. An internal conflict might be caused by the enhancing need to reach a focal goal and the increasing desire to use the right means to reach that specific goal. (Touré-Tillery & Fishbach, 2011) Understanding the two dimensions of motivation and the conflict they can cause, is necessary in designing programs targeted at motivation enhancement, such as rewards mechanisms.

According to Kivetz, Urminskey and Zheng (2006), the goal proximity increases motivation, while time proximity increases the value of rewards, leading to increased effort. Moreover, motivation is leveraged by the perceived rather than real progress to the focal goal. Thus, the psychological distance and psychological time are the drivers of the motivation and effort invested. (Kivetz, Urminskey & Zheng, 2006; Lens et al., 2012) The future time perspective is a cognitive-motivational construct that is the degree to which the future is anticipated and integrated in the psychological presence and results from goal setting. Motivational goals are placed in the future and the temporal distance carriers from short to long. In the case of distant future goals, intermediate goals are developed, from which future time perspectives emerge. (de Bilde, Vansteenkiste & Lens, 2011; Lens et al., 2012)
Lens et al. (2012) state the actions motivated by future goals are extrinsically motivated, different type of extrinsic motivation having different qualities. Based on self-determination theory, the quality of action depends on the type of goals – intrinsic or extrinsic goals (Ryan, 1995; Deci & Ryan, 2000; Ryan & Deci, 2000a; Ryan & Deci, 2000b; Gagné & Deci, 2005). These two types of motivation differ in their orientation toward future. While intrinsic motivation is by definition present-oriented because one is absorbed through inherent satisfaction from the task, the identified and integrated regulations of extrinsic motivation are goal-directed regulations related to future goals caused by their instrumentality. (de Bilde, Vansteenkiste & Lens, 2011; Lens et al., 2012)

de Bilde, Vansteenkiste and Lens (2011) and Lens et al. (2012) differentiate between two categories of individuals in terms of their temporal distance to goals: individuals with a long future time perspective and individuals with a short future time perspective. Those with a long future time perspective experience the intermediate future as more near than those with a short time perspective. This differentiation is necessary when designing reward system because the value of reward diminishes as a function of the length of its temporal delay, meaning that the value of reinforcements decreases when postponed (Rachlin, 1995). The impact of delays is stronger on the individuals with a short future time perspective, because their motivation is based on the extrinsic motivation instrumentality. Furthermore, developing realistic future goals will enhance present motivation due to shorter perceived psychological distance, enabling a shift to a long future time perspective. (de Bilde, Vansteenkiste & Lens, 2011; Lens et al., 2012) The motivational pull of future goals is important for employee engagement in reaching future outcomes. Employee engagement is delineated in the following chapter.
4. EMPLOYEE ENGAGEMENT

Employee engagement has become a focal area of interest for businesses and scholars due to disengagement among employees that causes the engagement gap (Bates, 2004; Richman, 2006; Saks, 2006; Attridge, 2009; Welch, 2011). Engagement is conceptualized as a resource that directly affects the employee presence or absence from work and during their role performances, due to employees experiencing momentary attachments and detachments in their role performances (Kahn, 1990). Employee engagement constitutes one of the top challenges and priorities for the management (Wah, 1999; Ketter, 2008; Attridge, 2009; Shuck & Wollard, 2010; Schaufeli, 2012). Therefore, understanding engagement is necessary for the human resource development strategies (Shuck & Wollar, 2010; Shuck & Rose, 2013).

4.1 Defining employee engagement

Engagement is a multifaceted construct that is diversely defined (Jose & Mampilly, 2012; Taghipour & Dezfuli, 2013), many of the definitions being considered as “old wine in new bottles” (Saks, 2006; Leiter & Bakker, 2010; Schaufeli & Bakker, 2010, 22). The first to conceptualize employee engagement was Kahn (1990) in the personal engagement at work theory (May, Gilson & Harter, 2004; Saks, 2006; Schaufeli & Bakker, 2010, 12; Shuck & Wollard, 2010; Jose & Mampilly, 2012; Schaufeli, 2012). Since then, the concept of engagement has evolved. However, there is some misinterpretation of the concept (Macey & Schneider, 2008; Shuck & Wollard, 2010; Welch, 2011). To avoid misinterpretation a summary of the most quoted definitions of engagement is introduced in table 3.
Table 3. Definitions of engagement and the studies’ contribution to the literature development

<table>
<thead>
<tr>
<th>Authors</th>
<th>Concept</th>
<th>Definition</th>
<th>Contribution of the study</th>
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<tbody>
<tr>
<td>Kahn (1990)</td>
<td>Personal engagement</td>
<td>&quot;harnessing of organization members’ selves to their work roles; in engagement, people employ themselves physically, cognitively and emotionally during role performances&quot; (694)</td>
<td>First to define the concepts of personal engagement and disengagement of employee self in-role at the workplace. Developed three psychological conditions: meaningfulness, safety and availability</td>
</tr>
<tr>
<td>Harter, Schmidt &amp; Hayes (2002)</td>
<td>Employee engagement</td>
<td>&quot;individual's involvement and satisfaction with as well as enthusiasm for work&quot; (269)</td>
<td>Studied employee engagement at the business unit level and the linkage to business outcomes</td>
</tr>
<tr>
<td>Schaufeli, Salanova, González- Romá &amp; Bakker (2002)</td>
<td>Engagement</td>
<td>&quot;a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption&quot; (74)</td>
<td>Studied engagement as an antipode of burnout</td>
</tr>
<tr>
<td>Saks (2006)</td>
<td>Employee engagement</td>
<td>&quot;a distinct and unique construct that consist of cognitive, emotional, and behavioral components that are associated with individual role performance&quot; (602)</td>
<td>Tested a model of the antecedents and consequences of job and organization engagements</td>
</tr>
<tr>
<td>Bakker &amp; Demerouti (2008)</td>
<td>Work engagement</td>
<td>&quot;A positive, fulfilling, work-related state of mind&quot; (209)</td>
<td>Drew antecedents and consequences of work engagement, namely job and personal resources from the job demands-resources model</td>
</tr>
<tr>
<td>Macey &amp; Schneider (2008)</td>
<td>Employee engagement</td>
<td>&quot;a desirable condition, has an organizational purpose, and connotes involvement, commitment, passion, enthusiasm, focused effort, and energy, so it has both attitudinal and behavioral components&quot;</td>
<td>Developed psychological trait engagement, state engagement and behavioral engagement</td>
</tr>
<tr>
<td>Shuck &amp; Wollard (2010)</td>
<td>Employee engagement</td>
<td>&quot;employee’s cognitive, emotional, and behavioral state directed toward desired organizational outcomes&quot; (103)</td>
<td>Reviewed the literature on engagement to situate the concept within the Human Resource Development field</td>
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</table>
Most studies analyzed engagement at the individual level (Kahn, 1990; Schaufeli et al., 2002; Saks, 2006) while others at the business unit level claiming it as being related to business outcomes (Harter, Schmidt & Hayes, 2002). Kahn (1990; 1992) states that personal engagement is one’s employment in behaviors, described by personal presence in terms of physical, cognitive and emotional presence, when performing their role at the workplace. In personally engaging behaviors individuals are connected to others, in ways that reveal their values and relatedness to others (Kahn, 1990). Such self-employment resembles intrinsic motivation (Deci, Koestner & Ryan, 1999; Ryan & Deci, 2000a; Ryan & Deci, 2000b; Gagné & Deci, 2005) and the state of flow developed by Csikszentmihalyi (1996, 113-126). The psychological conditions that facilitate personal engagement: are psychological meaningfulness, safety and availability. These psychological conditions constitute also the antecedents of engagement and will be introduced in the next sub-chapter.

Engagement is also characterized by Schaufeli et al. (2002) as a work-related state of mind in terms of vigor, dedication and absorption. Vigor represents high levels of resilience while performing a work-related task, and the willingness to invest effort in work despite difficulties. Dedication is characterized by a sense of significance, inspiration and challenge, while absorption is described as being fully focused and absorbed in the work. (Schaufeli et al. 2002; Bakker & Demerouti, 2008; Schaufeli, 2012; Taghipour & Dezfuli, 2013) Absorption is close to the Csikszentmihalyi’s (1996, 113-126) concept of flow. However the difference between absorption and flow is that the latter is characterized by a short-term peak experience rather than a persistent state of mind, which describes absorption. (Schaufeli et al. 2002; Schaufeli & Bakker, 2004)

While both engagement and flow implicate self-employment (Kahn, 1990), there is a difference between the two concepts. Beside cognitive involvement, individuals will engage also physically and emotionally, and vary in the degree they engross themselves in performing their roles at the
workplace (Kahn, 1990; May, Gilson & Harter, 2004), instead of experiencing only a peak of cognitive absorption that characterizes the state of flow (Csikszentmihalyi, 1996, 123-126). The state of flow provides immediate feedback to one’s actions, and does not require rewards to motivate for action as the activity itself represents a challenge. The state of flow is mostly experienced in activities such as games and creative activities. (Csikszentmihalyi, 1996, 110-113; May, Gilson & Harter, 2004)

Considering gamification, which is based on game-like techniques and their potential for engagement in non-game contexts (Ryan, Rigby & Przybylski, 2006; Deterding et al., 2011; Vassileva, 2012; Kosmadoudi et al., 2013; Mollick, 2014), it can be claimed that one can experience a state of flow in gamification. Engagement occurs at three levels: cognitive, emotional and behavioral levels (Saks, 2006; Macey & Schneider, 2008; Shuck & Wollard, 2010; Shuck & Reio, 2013).

In terms of engagement components, there is an association between the concepts of engagement developed by Kahn (1990) and the one elaborated by Schaufeli et al. (2002). According to Bakker and Demerouti (2008), Welch (2011) and Schaufeli (2012), both definitions share common representation of engagement: cognitive - absorption, emotional - dedication and physical - vigor. These concepts also resemble, to some extent, the three facets of engagement, namely psychological state engagement, trait engagement and behavioral engagement, introduced by Macey and Schneider (2008). Trait engagement constitutes the positive views of work, state engagement embraces absorption, while behavioral engagement relates to extra-role behaviors. These facets of engagement describe engaged employees, who differ qualitatively and quantitatively from less engaged personnel. (Ibid.) These facets of engagement will be introduced in more detail in the subchapter on the employee engagement model.

Engagement refers to an affective-cognitive state (Schaufeli & Bakker, 2004; Schaufeli et al., 2002) and it is negatively related to burnout
(Schaufeli, 2012). The relation between work engagement and involvement is controversial. According to May, Gilson and Harter (2004) and Saks (2006), work engagement differs from work involvement in that engagement is concerned with emotional and behavioral engagement in addition to cognitions and how workers employ themselves in their role performances. Work involvement is an outcome of the cognition about the need satisfaction at the workplace (May, Gilson & Harter, 2004; Saks, 2006). May, Gilson and Harter (2004) suggest that engagement is an antecedent of job involvement. On the other hand, Macey and Schneider (2008) see job involvement as a facet of engagement, while Schaufeli and Bakker (2010) state that the two concepts are related but not equivalent. For the present study, the position of May, Gilson and Harter (2004) and Saks (2006) will be taken, since gamification implies not only cognitive engagement, but also emotional and behavioral engagement.

Engagement is a moving target (Shuck & Rose, 2013). To understand how engagement translates into behavior, it is necessary to understand the antecedents of employee engagement. The following subchapter synthesizes the antecedents based on the literature on employee engagement theories.

### 4.2 Antecedents of employee engagement

Previous research has focused primarily on leveraging outcomes toward performance, leaving out the conditions that facilitate engagement. Knowledge of the conditions for engagement are necessary for the human resource development to create positive conditions for employee engagement, namely “engagement of condition” (Shuck & Rose, 2013, 344), in addition to the engagement as an outcome perspective. According to Shuck and Rose (2013), to build engagement of condition, there is need to build an understanding of the motivation that lie beneath engagement. Kahn (1990) claimed that employees express or withdraw their preferred selves depending on their experienced psychological conditions, the level
of which will lead to presence or absence in task behaviors. Kahn (1990) identified three psychological conditions: meaningful, safety and availability. Psychological meaningfulness is associated with return on investment of one’s self in terms of physical, cognitive and emotional energy (Kahn 1990; 1992). Key factors from which meaningfulness is derived are challenging, clearly stated goals and autonomous tasks. These tasks demand routine and new skills and lead to a sense of competence and learning, while meeting the relatedness needs through positive feedback. (Kahn, 1990; Spreitzer, 1995; May, Gilson & Harter, 2004) Moreover, work that is experienced as meaningful should facilitate work motivation (Spreitzer, 1995; May, Gilson & Harter, 2004). May, Gilson and Harter (2004) tested Kahn’s (1990) personal engagement theory and the results supported that meaningfulness has the strongest effect on engagement.

Psychological safety constitutes a sense of being able to employ oneself without negative consequences. Safety is generated from supportive interpersonal relationships and support from the side of management. Safety is also built through the role performances within the boundaries of the organizational norms. (Kahn, 1990) The study of May, Gilson and Harter (2004) supported that safety plays a significant role in employee engagement. The psychological safety, in terms of employee’s perceived organizational and supervisor’s support, was also identified as an antecedent of engagement by Saks (2006). The last psychological condition proposed by Kahn (1990) is psychological availability that stands for the sense of possessing physical, emotional and cognitive resources to complete a task performance. The results of May, Gilson and Harter (2004) did not find any relation between psychological availability and engagement in the original model, whereas in the revised model, support was given, the relationship between availability and engagement becoming significant.

Employees face job demands that require physical, emotional and cognitive effort in fulfilling task performance which are achieved through job resources and personal resources (Schaufeli & Bakker, 2004; Bakker & Demerouti,
2007; Bakker & Demerouti, 2008). Job resources refer to social and organizational aspects of the job in terms of autonomy, performance feedback, social and managerial support, while personal resources refer to self-evaluation and ability to control (Bakker & Demerouti, 2008; Schaufeli, 2012). Personal resources resemble the task characteristics in the model of the antecedents of employee engagement developed by Saks (2006). Based on similarities, it can be claimed that job resources resemble the psychological meaningfulness and safety, by giving employees a sense of autonomy, support, and feedback that generates competence. On the other hand, personal resources mirror the psychological availability. Moreover, job resources in terms of autonomy, performance feedback and support build motivational processes that result in work engagement (Bakker & Demerouti, 2007; Bakker & Demerouti, 2008).

Shuck and Rose (2013) situate employee engagement within the conditions of meaning and purpose. Meaning is defined in terms of contribution that is the personal return on investment characteristic to Kahn’s (1990) psychological meaningfulness. Employees will invest in tasks that they perceive as meaningful and impact personal influence. (Shuck & Rose, 2013) Moreover, employees will perceive meaningfulness through rewards that reflect value (Saks, 2006; Shuck & Rose, 2013). Currency based rewards should not be the only motivator for engagement. Rather, engagement in the context of meaning should balance between extrinsic and intrinsic rewards. Moreover, engagement in the context of purpose is driven by behaviors that have internal and external motivating factors. As a result, purpose is derived from meaningful outcomes. (Shuck & Rose, 2013)

Employee engagement is a desirable condition. Behavioral engagement is a tangible outcome of cognitive and emotional engagement in the work performance (Shuck & Rose, 2013). The following subchapter introduces a work engagement model that describes engagement at the three levels: trait, state and behavioral engagement.
4.3 Employee engagement model

Each type of engagement builds on the next (Saks, 2006; Macey & Schneider, 2008; Shuck & Wollard, 2010). Based on Kahn’s (1990) personal engagement theory, cognitive engagement is the first step in the engagement process. It consists of the interpretation of meaningfulness, safety and sufficiency of resources to complete a task. (Kahn, 1990; Shuck & Herd, 2012; Shuck & Reio, 2014) In the case of emotional engagement, employees invest personal resources, but their engagement is not yet behaviorally manifested. Behavioral engagement is defined as the physical manifestation of cognitive and emotional engagement in task performance. (Shuck & Herd, 2012; Shuck & Rose, 2013; Shuck & Reio, 2014) Bakker and Demerouti (2008), Welch (2011) and Schaufeli (2012) identified similarities between Kahn’s (1990) cognitive, emotional and physical engagement and Schaufeli et al.’s (2002) absorption, dedication and vigor.

A similar consequence is present in the model of employee engagement developed by Macey and Schneider (2008). This constitutes the main reason why this model was selected for the present study because it reflects the course of engagement. The three levels of engagement are the psychological trait, state and behavioral engagement (Ibid.). Trait engagement constitutes the disposition to experience work from a specific standpoint, being it from a positive affect perspective of consciousness. State engagement represents a form of affective components of engagement in terms of job satisfaction, organizational commitment, psychological empowerment and job involvement. (Ibid.) However, in the present study, the job involvement is not considered as part of state engagement since involvement is considered as a post stage of engagement, supporting the view of May, Gilson and Harter (2004) and Saks (2006). Moreover, it can be claimed that the cognitive characteristics of trait engagement and the affective components of state engagement resemble cognitive (absorption) and emotional (dedication) elements of engagement.
Behavioral engagement describes extra-role behavior and incorporates organizational role behavior, role expansion and proactive behavior (Macey & Schneider, 2008; Schaufeli, 2012). It can be stated that behavioral engagement mirrors the physical engagement (vigor). Macey and Schneider (2008) state that trait engagement is reflected in state engagement, which is an antecedent of behavioral engagement, as illustrated in figure 8.

![Employee Engagement Model](image)

**Figure 8. Employee engagement model (Macey and Schneider, 2008)**

Work attributes have a direct impact on state engagement, but also moderate the relationship between trait and state engagement (Macey & Schneider, 2008). The challenge, autonomy and variety of work tasks provide meaningfulness to the employee and competence in task performances, allowing personnel to experience growth and learning (Kahn, 1990; Spreitzer, 1995; May, Gilson & Harter, 2004). Macey and Schneider (2008) assert that leadership has a direct impact on trust and an indirect effect thought the creation of trust on behavioral engagement, while having an indirect effect on the relationship between state and behavioral engagement. Leadership support is one of the factors that affect employee psychological safety proposed by Kahn (1990). Such support actions enhance personnel self-determination. Moreover, the workplace is characterized also by interpersonal relationships that create a state of relatedness with work community, being also reflected on state engagement. (May, Gilson & Harter, 2004) Trust is an important element, described by Kahn (1990) and May, Gilson and Harter (2004) as the
interpersonal trust in terms of reliability on others and emotional relationship between employees. This gives a feeling of safety to engage in a behavior.

Employee engagement is determined by one’s resource availability, defined by Kahn (1990) as psychological availability. Thus, the employee’s availability of cognitive, emotional and physical resources reflect the intensity of engagement (Kahn, 1990; May, Gilson & Harter, 2004). To reach behavioral engagement, trait and state engagement need to be built (Saks, 2006; Macey & Schneider, 2008; Shuck & Wollard; 2010; Shuck & Herd, 2012). To perform their roles, employees need to believe that they have the required cognitive, emotional and physical resources (Kahn, 1990).

### 4.4 Engagement as a motivational outcome

There is a large number of theories on motivation and engagement, some leading to contradicting statements. Some researchers avoid integrating motivation and engagement, as in the case of Macey and Schneider (2008) leaving the integration to others. The present research attempts at integrating these two concepts based on the available literature.

Shuck and Reio (2011) and Shuck and Rose (2013) state that engagement can be operationalized as a psychological motivational-state variable, building the work experience in a cognitive-affective way. Job and personal resources, introduced in the subchapter on antecedents of engagement, start a motivational process that generates work engagement (Bakker & Demerouti, 2007; Bakker & Demerouti, 2008). Job resources, characterized by autonomy, social support and variety, have motivational potential performing an intrinsic motivational role by fostering employee learning and development. In addition, job resources execute an extrinsic role because these resources are necessary to achieve work-related goals. Furthermore, personal resources imply similar motivational potential. (Schaufeli & Bakker, 2004; Bakker & Demerouti, 2007; Bakker & Demerouti, 2010)
According to Schaufeli and Bakker (2004) and Bakker and Demerouti (2007), job resources fulfill the basic needs of autonomy, competence and relatedness, that are essential in building self-determination in employee motivation (Ryan, 1995; Ryan & Deci, 2000a; Gagné & Deci, 2005). Satisfying these needs lead to the psychological conditions for engagement - the psychological meaningfulness, in terms of work characteristics; and safety, in terms of leadership and colleagues’ support, as illustrated in figure 8. In addition, personal resources resemble the psychological availability in the sense that the employee will engage based on the amount of cognitive, emotional and physical resources available. As a result, it can be claimed that employee engagement is derived from work motivation, and it is manifested not only cognitively and affectively (Shuck & Reio, 2011; Shuck & Rose, 2013), but also behaviorally based on the psychological conditions of Kahn (1990). This is supported by Taghipour and Dezfuli (2013) that placed work motivation as an antecedent of employee engagement.

As a result of the above, it can be stated that the factors that affect motivation in the long-term have an impact on engagement. Touré-Tillery and Fishbach (2011) state that motivation evolves over time, taking a cyclical down-and-up pattern, determined by the length to the goal pursuit. A similar pattern characterizes employee engagement, as employees may experience leaps and falls in engagement, while engagement might have boundaries in time (Kahn, 1990; Macey & Schneider, 2008). Moreover, employees can experience momentary attachments and detachments in their work activities (Kahn, 1990; Shuck & Wollard, 2010). In addition, Schaufeli et al. (2002) and Saks (2006) claim that engagement is not a momentary state, but rather a pervasive affective-cognitive state. Macey and Schneider (2008) expect engagement to fluctuate in response to the work environment and distractions from employees' outside life.
5. GAMIFICATION AS MEANS FOR EMPLOYEE MOTIVATION AND ENGAGEMENT

Hamari, Koivisto and Sarsa (2014) emphasize that the positive effect of gamification depends on the context in which gamification is being applied and on the motivation of the target users. Motivation represents the fundamental concept of gamification (Nicholson, 2012). In the present study, the context of gamification is the work environment – the enterprise gamification. According to Werbach and Hunter (2012, 20-25), enterprise gamification promotes personal and organizational benefits, the employee fulfilling personal and organizational goals.

Gamified solutions targeted at employees constitute the fastest growing segment of gamification because of the opportunities to influence behaviors and drive organizational performance (Burke, 2014, 44). Gamification constitutes a means to motivate employees to achieve their goals (Ibid., 9) by motivating them to engage with a specific application or service (Deterding, 2011). Moreover, the goal of gamification is not only to make target activities engaging, but also to motivate behavioral and psychological outcomes (Koivisto & Hamari, 2014). Thus, gamification seeks to affect motivation rather than behavior directly (Hamari & Koivisto, 2013). At the moment of the present study, there is limited academic literature on the role of gamification in building employee motivation and engagement to drive behavior change. This chapter attempts to link elements from gamification with motivational and engagement theories described in previous chapters.

5.1 Building motivation with gamification

Gamification is based upon the motivational pull of games (Ryan, Rigby & Przybylski, 2006; Deterding et al., 2011) and it represents a means of motivating employees to achieve goals (Burke, 2014, 9). Thus, the satisfaction of competence, autonomy and relatedness needs, which are typical for games (Ryan, Rigby & Przybylski, 2006), resemble the three
psychological needs that are the theorized needs in self-determination theory and the conditions that foster positive processes (Ryan, 1995; Ryan & Deci, 2000a; Ryan & Deci, 2000b; Baard, Deci & Ryan, 2004). Werbach and Hunter (2012, 56-60), Leeson (2013) and Burke (2014, 18-21) assert that gamification implies these three elements of motivation. As a result, the motivation that is built with the help of gamification system implies lessons from self-determination theory.

In the context of games, the satisfaction of autonomy, competence and relatedness needs predicts the motivation to play (Ryan, Rigby & Przybylski, 2006). In addition, Ryan (1995), and Deci and Ryan (2000) state that the impact of any activity on an individual is a function of the need satisfaction experience. As a result, motivation in gamification context can be considered as function of these psychological need fulfillment.

Gamification uses tools to satisfy the three psychological conditions because they generate desired outcomes (Werbach & Hunter, 2012, 59). Designing gamification solutions that empower the employee to make choices when facing challenges, builds a sense of autonomy. Competence can be signaled through the points, levels and awards received that shows the progress to mastery. (Werbach & Hunter, 2012, 56-60; Burke, 2014, 18-21) Burke (2014, 20) insist that mastery is not the goal of gamification, it is about the employee getting better at performing their work tasks. A sense of relatedness can be developed through the social dynamics, such as performance in teams and within teams working toward a common goal, and collaboration (Werbach & Hunter, 2012, 67, 78-81; Werbach, 2014c). Moreover, Leeson (2013) and Burke (2014, 20) asserts that employees are more engaged and socially connected to others as part of larger purpose.

Identifying the conditions that support the psychological need of autonomy, competence and relatedness will enable to design gamification solutions that will facilitate intrinsically motivated behaviors. Moreover, Baard, Deci and Ryan (2004) state that these needs can be met through employees’
autonomy orientation and perception of their supervisor’s autonomy support. Autonomy support in gamification system is attained by providing the employee with clearly delineated goals (Burke, 2014, 53-54, 69), meaningful choices and information in the form of instant feedback, being it points, leaderboards or other elements, that provide information of the progress of one’s activity (Ryan, Rigby & Przybylski, 2006; Werbach & Hunter, 64-66; Tamchyna, 2014). Creating an internal locus of causality, in which actions are perceived as generated internally, will lead to greater sense of autonomy (Deci & Ryan, 2000; Turban et al., 2007). Autonomy will diminish the perception of the motivation as being controlled, in the sense of being regulated by external rewards (Werbach & Hunter, 2012, 67).

Even though extrinsic motivators are the most common motivators implemented in driving employee engagement, intrinsic motivation is of higher value (Werbach & Hunter, 2012, 54-55). However, it can be challenging in building intrinsic motivation during behavior change because employees might be resistant to change (Burke, 2014, 49). Based on self-determination theory, there are few types of extrinsic motivation, each varying in their degree of autonomy (Ryan & Deci, 2000a; Ryan & Deci, 2000b; Gagné & Deci, 2005), as illustrated in figure 6. According to Werbach and Hunter (2012, 67-68), extrinsic motivation operates along the self-determination continuum between totally controlled behavior through rewards and punishments to an integrated motivation that has a sense of autonomy, internalizing the system’s goals and values as one’s own. This is the case of points, badges and other mechanisms that are initially experienced by user as external, but aim at onboarding the user in the gamification solution. Once the employee perceives the behavioral regulators as meaningful, the regulation is internalized, reaching the highest level of autonomy of extrinsic motivation. (Ibid., 68)

Burke (2014, 18-19) states that extrinsic rewards are not sufficient to drive engagement, extrinsic rewards delivering results only in the short-term, reducing employee’s intrinsic motivation over the long term. Drawing on the
typology of extrinsic motivation, it can be claimed that extrinsic motivation that is controlling can be effective in the short-term. However, the extrinsic rewards characterized by autonomy, such as integrated regulation, can deliver results in the long-term too. Rewards are experienced as most controlling in the case of completion-contingent and engagement-contingent rewards, having a detrimental effect on intrinsic motivation. However, the performance-contingent rewards convey a sense of competence, diminishing the negative effect of control. (Ryan, Mims & Koestner, 1983; Deci, Koestner & Ryan, 1999; Hagger & Chatzisarantis, 2011) To conclude, gamification solution should reward in a way that enhances employee’s autonomy, competence and relatedness. This will maintain intrinsic motivation and internalization of extrinsic motivation, such context promoting engagement and learning (Deci, Ryan & Williams, 1996).

5.2 Enhancing employee engagement with gamification

The satisfaction of the psychological need of autonomy, competence and relatedness, lead to the fulfilment of the psychological condition of meaningfulness for personal engagement (Kahn, 1990; Spreitzer, 1995; May, Gilson & Harter, 2004). Conditions for psychological safety and availability need to be created since the employees will engage only if they perceive some motivational affordances (Deterding, 2011; Hamari, Koivisto & Sarsa, 2014). Employees will engage in behaviors designed by the gamification system if they perceive that they have sufficient cognitive, emotional and physical resources. Gamification implies action. Thus, in gamification, the goal is to reach the behavioral engagement that requires building cognitive (trait) and emotional (state) engagement (Saks, 2006; Macey & Schneider, 2008; Shuck & Wollard; 2010; Shuck & Herd, 2012), as presented in figure 8.

To facilitate behavioral engagement, the gamification system should develop activity loops, in terms of engagement and progression loops, which are part of gamification design process. Engagement loops represent
engagement at the employee level, while progression loops constitute engagement at the macro level. Engagement loops constitute one of the fundamental principles of gamified environment. (Werbach & Hunter, 2012, 95-98; Burke, 2014, 110-116; Tamchyna, 2014) By fulfilling the need for autonomy, competence and relatedness, the employee engages behaviorally when the system provides feedback in the form of gamification components that were introduced in figure 3. Feedback creates further motivation to engage (Werbach & Hunter, 2012, 95; Tamchyna, 2014). To implement progression loops, there is need to consider that the engagement loop at the micro level persist at each level of progression. Thus, to reach the focal goal, the employee experiences cycles of motivation and engagement while progressing in the system, as illustrated in figure 9.

According to Werbach and Hunter (2012, 96-98) and Burke (2014, 116), progression, also called player journey, is a stage process, with onboarding being the first step. Furthermore, progression constitutes the path to mastery, each step increasing in difficulty and challenge (Werbach & Hunter, 2012, 96-98; Burke, 2014, 116). Considering the course of motivation, the marginal value of actions is higher closer to the target goal, being it outcome-focused or means-focused motivation, the pulling force of focal goal building a goal-driven process (Touré-Tillery & Fishbach, 2011). In the case of outcome-focused motivation, the employee risks to experience a steep loss, thus continues to engage cognitively, emotionally
and behaviorally to achieve the focal goal (Kivetz, Urminsky & Zheng, 2006; Touré-Tillery & Fishbach, 2011). To avoid diminishing motivation in the case of means-focused motivation, caused by mental or physical shortcuts in the middle of goal pursuit, the focal goal should be split in smaller focal goals. This is to shorten the distance to reaching the target goal. This should be designed in a manner that will not cause reduction of psychological resources in pursuing multiple goals. Moreover, the goal proximity increases motivation, while time proximity increases the value of rewards. (Kivetz, Urminsky & Zheng, 2006; Touré-Tillery & Fishbach, 2011) This approach is important in designing reward mechanisms.

Nicholson (2012) and Burke (2014, 21-24) state that user-centric design focuses on challenges that motivate users to achieve goals that are meaningful. The balance between challenge and skills required to complete a task, constitutes a channel of flow, in which users are totally absorbed and engaged with the activity (Csikszentmihalyi, 1996, 123-126), as illustrated in Appendix 3. The state of flow and engagement are different concepts, the flow representing a peak of cognitive absorption, while engagement requires also emotional and behavioral engagement (Kahn, 1990; May, Gilson & Harter, 2004). Furthermore, flow is mostly experienced in games (Csikszentmihalyi, 1996, 110-113; May, Gilson & Harter, 2004) and gamification is based on game-like techniques (Ryan, Rigby & Przybylski, 2006; Deterding et al., 2011; Vassileva, 2012; Kosmadoudi et al., 2013; Mollick, 2014). As a result, the state of flow can be present in gamification, but it does not represent the entire engagement.

5.3 Gamification as a means for behavior change

Gartner (2012) and Burke (2014, 36-38) state that the aim of gamification is to drive behavior change, develop skills or enhance innovation. These three targets describe the enterprise gamification, which is targeted at employees and work communities. According to Werbach and Hunter (2012, 20-25), enterprise gamification facilitates personal and organizational benefits.
Personal goals need to be aligned with organizational goals (Burke, 2014, 9), while business objectives and targeted behavior are interconnected and should be tracked by certain key performance indicators (Tamchyna, 2014) that will provide information on the targeted process.

There are opportunities for gamification in the area of change management (Gartner, 2012; Burke, 2014, 49). Gamification can engage employees in changing their behaviors and to adopt a new habit, necessary for business processes (Gartner, 2012). Changing habits require learning, and the motivation to learn is tied to acquired skills and knowledge. The change is implemented by defining clear goals and providing encouragement along the change process, which stimulate behavior change. (Burke, 2014, 49-59; Werbach, 2014f) Fogg (2009) states that in addition to motivation, there is the ability to perform the target behavior and triggers to reinforce the behavior, triggers playing a critical role in learning to self-activate behavior change. Once employees learn a new behavior, it needs to be repeated until a new habit is shaped. (Burke, 2014, 49-59; Werbach, 2014f)

As illustrated in figure 9, the effort in gamification is iterative. The motivation is controlled at the onboarding stage. Thus, the external rewards are to encourage engagement in the target behavior. From the perspective of self-determination theory (Ryan, 1995), the employee will perceive an external locus of causality at the initial levels. With the iteration of engagement loop, internalization will be facilitated that will lead to an integration of the organizational goals with the employee’s goals, leading to a more autonomous motivation and an internal perceived locus of causality. (Ryan, 1995; Deci & Ryan, 2000; Ryan & Deci, 2000a; Ryan & Deci, 2000b; Gagné & Deci, 2005) Once external regulation is integrated, the employee experiences a sense of autonomy and meaningfulness of the system that enables better performance. As a result, the employee engages cognitively, emotionally and behaviorally in the target behavior. (Kahn, 1990; Saks, 2006; Shuck & Herd, 2012; Shuck & Reio, 2014)
The gamification solution needs to balance motivation and challenges in order to keep each user type (Burke, 2014, 131; Tamchyna, 2014): achiever, killers, explorers and socializers, introduced in figure 5, engaged in task performance. The gamification system needs to be designed to avoid the opposite effect of rewards. Burke (2014, 18-19) stated that extrinsic rewards are not sufficient to sustain engagement and in some cases have opposite effects, such as diminishing intrinsic motivation, which is described by the cognitive evaluation theory (Deci, 1971; Deci & Ryan, 1980, 46; Rummel & Feinberg, 1988; Ryan, 1995). In other situations, the users can game the system, in a way that they will find loopholes in the gamification solution and try to cheat the system. This drives a behavior based on the desire to win, rather than to engage in the task performance. Thus, defining the objectives and target behaviors, together with deploying appropriate tools and monitoring is necessary. (Burke, 2014, 135-137; Werbach & Hunter, 2014, 117-119) The developers of the system should improve the solution by learning from the users that identified the loopholes.

Unlike consumer gamification, in the enterprise gamification, the employees cannot stop their actions in gamification, because it is in some way a mandatory participation forced by managers. Gamification is a form of motivational design, and it should facilitate employee engagement in an enjoyable rather than stressful manner. (Werbach & Hunter, 2012, 114-119) The possible problems that can arise in gamification relate to ethical issue and behaviors that could be manipulated. Gamification solutions should be designed to help employees in performing their tasks in an ethical way and comply with the human resource development practices. Moreover, the future of gamification as a means for employee motivation and engagement should be considered in the context of the new technologies and user interaction at that time. (Burke, 2014, 153) Meanwhile, the future of gamification is contingent on the present performance of gamification, which is looked at in the present research from the perspective of gamification solution developers.
6. RESEARCH METHODOLOGY

The research objective of the study is to discover how enterprise gamification solution developers perceive gamification as a means to develop employee motivation and achieve engagement. This perspective has not been studied earlier (Hamari, Koivisto & Sarsa, 2014). The researcher perceives it as an important aspect in studying gamification since the developers’ understanding of what drives motivation and engagement at the workplace is directly reflected in the design of the gamification solutions and in the outcomes from their implementation.

This chapter describes the research approach and design that was developed in order to get answers to the research questions. Multiple-case study was implemented and the data was collected from the gamification developers through interviews. Eisenhardt and Graebner (2007) claim that theory building from cases are usually based on qualitative data from interviews. The closing note of the chapter is the data analysis procedure, introducing the ex-ante and ex-post codes for the data analysis.

6.1 Research Approach

The research approach differentiates between deductive and inductive reasoning. Deduction involves development of theory that is subject to test as the research builds on the existing literature. A characteristic of deduction is generalization. On the other hand, through induction general conclusions can be drawn from empirical observations. The findings in the inductive approach are incorporated into existing theories, contributing to the development of knowledge. However, induction does not emphasize on generalization. (Dubois & Gadde, 2002; Saunders, Lewis & Thornhill, 2009, 124-126; Ghauri & Grønhaug, 2010, 15-16) Inductive approach considers the context of the study and also the meaning the subjects under study attach to events (Saunders, Lewis & Thornhill, 2009, 126).
The approach depends on the research topic. A topic on which there is extensive literature leads to a deductive approach since the theoretical framework can be derived from literature. In the case of a new topic area, the literature is limited, leading to an inductive reasoning based on the generated data and its analysis. (Saunders, Lewis & Thornhill, 2009, 127) The present research relies on the existing theories on employee motivation and engagement. The literature on these topics is extensive and constitutes the starting point of the present study. On the other hand, the topic of gamification is new and there is limited academic literature and actual studies on the efficacy of gamification in work-related contexts. The processes of deduction and induction are not totally exclusive, but can be combined within the same research (Saunders, Lewis & Thornhill, 2009, 127; Ghauri & Grønhaug, 2010, 16).

Based on the above, the current research takes an abductive approach. Dubois and Gadde (2002) define abduction as the systematic combining in relation to deductive and inductive approaches. Saunders, Lewis and Thornhill (2009, 127) promote the abductive approach as advantageous. The abductive approach emphasizes on the importance of fit between theory and reality. Data should not be forced to fit preconceived categories. Thus, abduction gives possibilities to capture the systematic character of both empirical world and theoretical models. (Dubois & Gadde, 2002)

6.2 Research Design

Lee and Lings (2008, 180-181) and Yin (2009, 26) state that research design concerns with finding answers to the research questions and how to generate empirical evidence to study the research questions, leading to valid and reliable conclusions. Research design is the blueprint of research (Yin, 2009, 26). It is decided based on the problem structure (Ghauri & Grønhaug, 2010, 56). The present study is explorative in its nature, because it addresses gamification, which is a new phenomenon of which little knowledge is available (Saunders, Lewis & Thornhill, 2009, 139-140; Ghauri
Grønhaug, 2010, 56). The study explores how gamification relates to motivation and engagement theories, and how the latter two can be built with the help of gamification.

Despite the criticism qualitative methods have received, being undervalued as less scientific method, these statements have not been proven (Miles & Huberman, 1994, 40; Marschan-Piekkari & Welch, 2004, 5-6; Ghauri & Grønhaug, 2010, 104). A qualitative approach is adopted for the present study. Qualitative methods are most applicable to inductive and exploratory research (Ghauri & Grønhaug, 2010, 105-107), this research being explorative. The research questions require an understanding of the perceptions of employee motivation and engagement from the informant’s point of view. Moreover, the qualitative approach enables a process orientation (Ibid., 104-105), which in this case is the gamification developers’ perceived process of building employee motivation and engagement, rather than the focus on results of gamification in terms of quantified outcomes. Furthermore, the limited number of cases available to study the research problem does not allow to take a quantitative approach, which requires large samples (Ibid., 104).

The present research adopts a cross-sectional perspective. It captures the phenomenon under study only at a particular time, as the interviews are conducted over short period of time due to time limitations (Lee & Lings, 2008, 197; Saunders, Lewis & Thornhill, 2009, 155-156). This time horizon is appropriate for this study because of the newness of gamification. Gamification is still at the peak of inflated expectations, turning toward the disillusionment phase (Burke, 2012a; Burke, 2012b; Gartner, 2012; Burke, 2014, 6-8, 151-152), meaning that it has not been yet embedded in companies’ employee motivational strategies at a large scale.
6.2.1 Case Study Research

Case study is the research strategy selected for the present study. This research strategy focuses on understanding the dynamics that occur within a single setting (Eisenhardt, 1989). Yin (1994, 13; 2003a, 13; 2003b, 4) defines case study as an empirical inquiry that investigates a contemporary phenomenon within its contexts. Thus, the contextual conditions are considered because they are relevant to the phenomenon under study. Case study applies when addressing “how” questions, the researcher has little control over the studied phenomenon, and the focus is on a phenomenon in its real-life context (Yin, 2009, 2).

Case studies receive many arguments, one of them being that the result of theory building from cases may be a narrow theory (Eisenhardt, 1989). Case studies may also be perceived as providing little basis for scientific generalization because they are too situation-specific (Yin, 1994, 10; 2003a, 10; Stake, 1995, 7). This should be interpreted as an opportunity rather than a problem. Learning about the interaction between the phenomenon and its context is possible through in-depth case studies. (Dubois & Gadde, 2002)

According to Yin (2009, 35, 57), theory needs to be developed before conducting data collection. However, given that the present study takes an abductive approach, theory will be developed also based on the empirical findings (Dubois & Gadde, 2002; Saunders, Lewis & Thornhill, 2009, 127). Theory development involves reviewing literature related to the topic of the study. It constitutes a part of the design phase, whether the purpose of the case study is to develop or test theory. The goal of theory development is to have a blueprint of the study. It helps in developing the theoretical framework of the study. It also leads to a better design and ability to interpret data. (Yin, 2009, 35-38) The literature on the employee motivation and engagement, as well as available literature on gamification, were reviewed in the previous chapters and a theoretical framework was developed to assist the study.
The present study is based on multiple-case design to facilitate replication of the findings. The advantage of multiple-case study is that the evidence is more convincing. Analytical conclusions generated from multiple-cases are more powerful than in the single case (Yin, 2003a, 46-47; 2009, 53). It provides a stronger base for accurate and generalizable theory building (Yin, 1994, 38-39) by clarifying if the findings are replicated by several cases or applicable to a single-case only (Eisenhardt & Graebner, 2007; Saunders, Lewis & Thornhill, 2009, 146-147). The disadvantage of multiple-case studies is that it requires extensive time resources (Yin, 1994, 45; 2009, 53). The multiple-case design was selected for this study in order to see the degree of replication of the results among cases.

6.2.2 Case Selection

Yin (2003a, 47; 2009, 54) claims that in selecting cases there is a replication rather than a sampling logic, in the sense that each case predicts similar results or anticipates contradicting results based on predictable reasons. On the contrary, Eisenhardt (1989), Eisenhardt and Graebner (2007), and Lee and Lings (2008, 201) emphasize on the theoretical sampling, which is based on the case contribution to the theory development or replication of the emergent theory. A theoretical sampling is implemented for the purpose of the present study because of the contribution of each case to the theory development on gamification in work motivation and engagement.

In parallel, the study adopts a multi-case sampling. This decision is based on the confidence that can be added to results through multi-case sampling, following a replication strategy, as argued by Miles and Huberman (1994, 29). Multiple-case studies require clear choices about the types of cases to be selected, the conceptual framework and research questions setting limits for sampling decisions. Moreover, the sampling frame is built upon conceptual grounds rather than representative grounds. (Miles & Huberman, 1994, 29; Miles, Huberman & Saldana, 2014, 34) The sampling parameters for this study are the processes of employee motivation and
engagement in the gamified solution, these constituting also the conceptual grounds considered for the case selection.

The case selection constitutes a major aspect of theory building from cases because it assists in defining the limits of the generalization of the findings. The number of cases varies, reaching closure when theoretical saturation is reached, a point when the incremental learning is minimal as researchers see repetition among the selected cases to observe the phenomenon. (Eisenhardt, 1989) Even though there is no established number of cases, Eisenhardt (1989) states that the number of cases is usually between four and ten, a number in this range enabling to generate convincing theory, while avoiding complexity caused by too large set of data. Moreover, Yin (2009, 58) states that in a multiple-case design, five or more cases are necessary to facilitate replication logic with a higher degree of certainty.

The unit of analysis of the current study are the case firms. The target cases are companies that develop enterprise gamification solutions. The target companies' solutions can focus on either employees or both employees and customers, but the emphasis in the study is only on the aspect of employee motivation and engagement. No geographical boundaries are considered for the case selection, since the topic of employee engagement is a current one, companies facing the engagement gap in all parts of the world. Moreover, there is a limited number of companies that provide enterprise gamification solutions, limiting the number of possible cases.

The researcher screened online for potential companies. The criteria for companies’ selection to be contacted was: the firms offered enterprise gamification solution as their primary product/service, they emphasized on their website that the solution is targeted at employee motivation and engagement, or they are referred to these aspects on tertiary webpages. Moreover, the focus is on companies that concentrate on assisting other companies in gamifying their internal activities related to employee performance and behavior change. This particular sample was selected
because of the potential cases’ need to understand the processes of employee motivation that drives engagement at the workplace leading to behavior change.

A total of ten companies that meet the case selection criteria were identified and contacted. Out of ten companies, five companies agreed to participate in the study. Five cases is in the good range of the number of cases suggested by Eisenhardt (1989) and Yin (2009, 58), and should generate convincing results through the replication logic, enhancing external validity. The five companies are represented in the study by their experts in gamification, three being founders and current Chief Executive Officers of their companies, while two are specialists in gamification. Three of the cases are located in Finland, one in the USA and one in Israel. The cases are described in subchapter 7.1.

6.2.3 Data Collection

As the research is based on several cases and approaches a strategic phenomenon, interviews are often utilized as the primary data source (Eisenhardt & Graebner, 2007). Since employee motivation and engagement is becoming a top priority for management due to engagement gap (Wah, 1999; Ketter, 2008; Attridge, 2009; Shuck & Wollard, 2010; Schaufeli, 2012), this topic moves from an everyday occurrence to a more strategic phenomenon. Therefore, the data collection was conducted with the help of interviews. Since the researcher needs to obtain the interpretations of gamification developers of the research problem, interviews are an appropriate tool (Stake, 1995, 64).

The typology of interviews is contradictory in literature. According to Lee and Lings (2008, 217-218), in-depth interviews are divided into unstructured and semi-structured interviews. On the other hand, Saunders, Lewis and Thornhill (2009, 320-321) differentiated between structured, semi-structured and unstructured interviews, the latter referring to in-depth
interviews. Moreover, Ghauri and Grønhaug (2010, 126-127) distinguish between unstructured, structured, semi-structured and in-depth interviews.

For the purpose of this study, the position of Lee and Lings (2008, 217-218) is adopted. Thus, the data is collected through in-depth interviews, more specifically through semi-structured interviews. This is because in-depth interviews facilitate rich and in-depth answers that tap into the experience and opinions of the interviewee. To make interviews comparable, semi-structured interviews were selected because the questions were developed based on the theoretical framework. This is to ensure the generation of useful and comparable data, which in some situations can be a question in the unstructured interviews. (Ibid., 218) Therefore, the same set of questions were asked from each interviewee. Moreover, the semi-structured approach is to ensure that despite the careful designed questions, the interviewer identifies the new emergent concepts that the responded might bring up in the interview. The in-depth approach is appropriate for exploratory research, which characterizes the present study.

Open-ended questions were developed. The interview questions are available in Appendix 4. The questions were reviewed with the supervisor prior the interview day. This ensured that the questions were consistent with the research problem, did not contain any terminology that the interviewee might not be familiar with, and that questions are not formulated in a leading or directive manner. The interview started with introductory questions, followed by probing questions to explore answers that are important for the research, specifying questions and devil’s advocate questions that requires the interviewee to take a position and expand on it. During the interview, structuring and interpreting questions were asked. These types of questions were based on the questions typology proposed by Lee and Lings (2008, 220-221) and Saunders, Lewis and Thornhill (2009, 337-339).

Even though some of the questions are very specific, they are based on the theoretical concepts identified prior to data collection, and are aimed at
getting more in-depth information from the interviewee. The topics to be covered are determined beforehand to diminish bias (Ghauri & Grønhaug, 2010, 126). Any possible lack of standardization can rise concerns of the reliability. These concerns relate to interviewer bias, caused by the tone and non-verbal behavior of the interviewer affecting how the interviewee responds to the questions. It can also produce a response bias, when the interviewee places himself in a socially desirable way by not revealing all the information. (Saunders, Lewis & Thornhill, 2009, 326-327) Eisenhardt and Graebner (2007) mentioned that interviews may cause data bias because of the retrospective sense-making of the interviewee. The solution is to interview highly knowledgeable informants who see the phenomena under study from diverse angles, in this way limiting any potential bias (Ibid., 2007). These aspects are considered by the researcher when collecting the data, by trying to not influence the interviewee through any verbal or non-verbal behavior. Moreover, the participants in the study are very knowledgeable of gamification and work motivation. The interviewees have a variety of experience in addition to gamification. Their expertise is introduced in table 4. The interviewees are kept anonymous.

Table 4. Expertise of interviewees

<table>
<thead>
<tr>
<th>Interviewee</th>
<th>Expertise</th>
<th>Years of experience in gamification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviewee A</td>
<td>Technology consulting, CRM, gamification, lecturing</td>
<td>2</td>
</tr>
<tr>
<td>Interviewee B</td>
<td>Crowdsourcing, social media, consulting, gamification</td>
<td>2</td>
</tr>
<tr>
<td>Interviewee C</td>
<td>Mobile games, software, gamification</td>
<td>2</td>
</tr>
<tr>
<td>Interviewee D</td>
<td>CRM consulting, product development, gamification, lecturing</td>
<td>1.5</td>
</tr>
<tr>
<td>Interviewee E</td>
<td>IT consulting, telecom, gamification</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Since gamification is an emerging field, informants have on average a couple of years of experience in this domain. This short length of time has some advantages as it reduces memory bias (Podsakoff, MacKenzie, Lee & Podsakoff, 2003) of the informants as they can carefully recall their experience with gamification. Five semi-structured interviews were conducted, one for each case. Because of the limited number of enterprise
gamification solution developers, a pilot test was not possible. However, after the first interview, the researcher asked the participant to suggest ways of improving the questions. The proposed questions were added to the question list. Three cases were represented by company founders, the other two participants were gamification specialists in their enterprises.

Three interviews were conducted face-to-face, while the other two via web conferencing software. The duration of the interviews ranged between one to two hours. All the companies were informed that the researcher conducts interviews with other gamification developers. The interviewees were asked the permission to record the interview session and they were informed the purpose of recording. The purpose was to enable a more accurate data analysis. The permission to use the company name in this report was requested. All interviewees agreed on the researcher’s use of the company names. The participants will be provided with the results of the study.

The interviews were recorded with the help of a digital voice recorder. This is to enable data transcription and data analysis. According to Saunders, Lewis and Thornhill (2009, 341), the advantage of audio-recording is that it provides accurate and unbiased record, and the researcher can re-listen to the interview, while the disadvantage is the possible inhibition of the interviewee responses, reducing the reliability. Despite the use of the voice-recorder, the researcher took notes during the interview, while maintaining a conversational approach. The notes are to help remember the details from the interview (Lee & Lings, 2008, 228). After the session, notes related to further recommendations suggested by the respondents were written down.

In addition to the primary data collected through interviews, secondary data was collected. The secondary data consists of webinars, whitepapers, blog posts and company presentations that were shared by the case companies with the researcher. This is to facilitate data source triangulation (Stake, 1995, 112) and increase the validity of the findings (Eisenhardt, 1989; Sauders, Lewis & Thornhill, 2009, 146). The interview and document review
is to increase confidence in the interpretation of the findings (Stake, 1995, 114). The list of primary and secondary data is presented in Appendix 5. To test the generalizability of the findings, an additional interview was conducted with a gamification company that targets its solutions at consumers. This case company is not part of the main sample.

6.3 Data Analysis

There are few approaches in analyzing qualitative data: analyzing departing from existing theory (deduction) or from the data (induction). Nevertheless, theory is required in any type of research. The researcher gets direction by departing from existing theory, and makes sense of data also with the help of theory. Thus, knowledge can be produced from a set of data by using concepts and theories. Therefore, qualitative research involves intensive interaction between data and theory. (Ghauri & Grønhaug, 2010, 205-207).

The present research adopts both approaches. In the early stage of analysis it departs from existing theory on motivation and engagement. The analysis of data is to generate knowledge on the emerging field of gamification.

The five interviews and two webinars were transcribed, to enable further data analysis. The transcription is done independently by the researcher. The researcher transcribing the interviews reduces the risk of misunderstanding of the transcriptions since the researcher was the one who collected the data and is familiar with it. Data transcription enables the researcher to connect with the data and identify patterns immediately. (Lee & Lings, 2008, 228; Saunders, Lewis & Thornhill, 2009, 485) The decision is to transcribe everything, as Lee and Lings (2008, 228-229) suggest that omitting some data can cause risks in interpreting the results.

Miles and Huberman (1994, 10) define data analysis as the concurrent activities of data reduction, data display and conclusion drawing and verification. These processes are illustrated in figure 10. Data reduction is the process of selecting, abstracting and organizing the data from
transcriptions, in a way that the final conclusion can be drawn and verified. Data reduction occurs even before the data collection as the researcher decides upon the conceptual framework, cases, research questions, research method. These all reduce the amount of data. This process continues until the completion of the research. (Miles & Huberman, 1994, 10; Lee & Lings, 2008, 236; Saunders, Lewis & Thornhill, 2009, 503—505; Ghauri & Grønhaug, 2010, 199-200)

Figure 10. Data analysis (adopted from Miles & Huberman, 1994, 10)

The second activity is data display, which is an organized and compact form of information that allows the qualitative analyst to build justified conclusions. The displays can take the form of matrices, graphs and charts. Data display starts with the data collection and continues until the end of the research process. The third flow of analysis is conclusion drawing and verification. Final conclusions are produced after completing data collection. Building conclusions is an on-going process until the study reaches its final stage. (Miles & Huberman, 1994, 11; Miles, Huberman & Saldana, 2014, 13-14; Lee & Lings, 2008, 236-237)

**Coding**

Codes represent labels for allocating a certain meaning to the information gathered during the data collection. Codes pull a large amount of information by grouping pieces of information into a meaningful whole, thus enabling data analysis. Therefore, they constitute data-labeling and data-
retrieval instruments. (Miles & Huberman, 1994, 57-58, 65; Lee & Lings, 2008, 244-245)

The primary and secondary data was analyzed with the help of the CAQDAS NVivo. The CAQDAS can enhance systematization, trustworthiness, effectiveness and transparency of qualitative research by following formalized procedures and making the analysis more rigorous (Sinkovics, Penz & Ghauri, 2005) through efficient coding and retrieval instruments (Sinkovics, Penz & Ghauri, 2008; Sinkovics & Alfoldi, 2012). CAQDAS enables to organize and analyze large data sets and make associations within the data (Miles & Huberman, 1994, 44; Sinkovics & Alfoldi, 2012; Miles, Huberman & Saldana, 2014, 48), overcoming the limitations associated with qualitative research (Sinkovics, Penz & Ghauri, 2008).

According to Miles and Huberman (1994, 58, 65), a list of preliminary codes based on the theoretical framework and research questions should be developed prior to data collection. Therefore, descriptive and interpretive codes were developed prior to interviews. Descriptive codes assign elements of a phenomena to a segment of text while interpretive codes specify detailed information on the descriptive codes (Ibid., 57). They are based on the key concepts from the theoretical framework and literature overview, as well as from the research questions. The ex-ante codes are presented in Appendix 6. The ex-ante codes are not to force-fit the data into the predefined codes. The codes created prior to data collection aim at giving direction, as Ghauri and Grønhaug (2010, 205-207) stated that data analysis should depart from existing theory, even in the case of abductive approach.

Therefore, the transcribed interviews and secondary data were imported to NVivo. NVivo enables to store large data sets and code systematically through automated and selective coding, searching codes and browsing documents to show the context of the coded sections (Sinkovics, Penz &
Selective coding was adopted, leaving out the option for automated coding. This is to ensure a more thorough coding as informants recalled some concepts in the interview along the interview questions.

In NVivo the codes represent the nodes that are organized in parent and child nodes. These categories resemble the descriptive and interpretive codes introduced by Miles and Huberman (1994, 57). Having coded the primary and secondary data, the researcher organized the codes into categories that facilitated the emergence of patterns that are explanatory codes (Ibid., 57). In the process of primary and secondary data analysis, new codes emerged.

Coding was an ongoing process that stopped only when a theoretical saturation was reached, a moment when no new themes emerged (Sinkovics, Penz & Ghauri, 2005). Moreover, continuous coding identified potential sources of bias by detecting incomplete information. (Miles & Huberman, 1994, 61, 65) The ex-post list of codes categorized in themes is introduced in Appendix 7, the list being extracted from NVivo. The list of final codes is extensive, the codes from the ex-ante list being complemented with codes that emerged from the data. The coding process in NVivo is presented in Appendix 8, coding including text data and figures.

NVivo facilitated a more transparent and efficient data analysis. The coded references were retrieved with the help of queries, which facilitated a more accurate data management. The process of data retrieval through queries is captured in Appendix 9.
7. RESULTS AND FINDINGS

This chapter introduces the case companies, empirical results and findings. The descriptions of the case firms are presented in order to describe the context of the analysis that will generate a better understanding of the results (Stake, 1995, 123). The results are presented anonymously. The order of the case companies in which they are described does not match with the order of the anonymous cases displayed in the results section. This is to ensure the anonymity to the interviewees.

The empirical results are presented in a cross-case format in order to facilitate comparison between the cases and indicate the extent of the replication logic (Yin, 2009, 56). The research results are structured in the order of the research questions to ensure consistency in approaching the research problem. Findings are introduced along with the research results.

7.1 Case descriptions

The five cases that participated in this study are Cloudriven, GameLayer, Sulava, GamEffective and CRMGamified®. All the companies provide enterprise gamification solutions. The context of their operations is briefly introduced below.

Cloudriven
Cloudriven is a Finnish company founded in 2012. Its solutions consist of consulting services and gamified software for behavior management within organizations. (Cloudriven, 2014a) Habit Behavior Engine is Cloudriven’s gamified tool for behavior and performance management aimed at increasing employee motivation and engagement, and change management. Habit Behavior Engine motivates and encourages learning and competency development in organizations, employee collaboration and knowledge sharing. The company offers Virta (Flow) solutions that are based on Microsoft Dynamics CRM product. Virta solutions are targeted at
CRM (Customer Relationship Management) sales management and account management, in particular in business-to-business sales. The solutions are available across various devices, also through add-on applications. (Cloudriven, 2014b) By motivating and engaging customers, employees and partners Cloudriven attempts to connect people to the business processes and create business value (Cloudriven, 2014a).

**GameLayer**

Founded in 2012 in Finland, GameLayer is focusing on taking gamification beyond the simple game mechanics. With gamification GameLayer helps drive user engagement and motivated behavior in a desired manner. The solution is targeted at customers and employees. The founders have brought to their gamification solution their experience from mobile and game industries. (GameLayer, 2013a) Besides gamification, the company’s expertise is in engagement, mobile solutions and Near Field Communications technologies (GameLayer, 2013b).

**Sulava**

Established in 2010 in Finland, Sulava is a consultancy company that helps enterprises adopt digital solutions. (Sulava, n.d. a) The company specializes in improving the productivity of knowledge work. At the core of the solutions are Microsoft technology, cloud services and social technology. (Sulava, n.d. b) Sulava assists companies in choosing the technology platforms, products and providers that meet their needs, supervises the required ICT projects and monitors the adoption of change within the organizations. (Sulava, n.d. a) The company is developing a gamified solution that contains social features as part of knowledge work and rewards performance that follows instructions. Sulava Action Engine assists employees in planning their work, giving them a sense of purpose and progress. The goal is to make employees see the benefits of knowledge sharing, when they get intrinsically motivated to continue sharing information. (Harjanne, 2013)
**CRMGamified®**

CRMGamified® was established in 2012 in the United States (CRMGamified®, n.d.). CRMGamified® represents a sales motivation engine that adopts gamification techniques to encourage CRM adoption by salespersons. It aims at increasing sales and generating business results through improved quality of CRM data and employee engagement. It monitors the behaviors an organization wants to encourage among its sales representatives by motivating and rewarding sales representatives for performing desired activities. The activities consist of collaboration in the team with other peers, learning and introducing accurate information to the CRM system improving the sales pipeline accuracy. The solution is designed for Microsoft Dynamics CRM and operates on either on-premises or online Microsoft Dynamics CRM solutions. With CRMGamified® companies can drive desired business process or see how their employees use Microsoft Dynamics CRM, enabling to fine-tune the system according to the goals of the organization. (CRMGamified®, 2014)

**GameEffective**

Founded in 2012 in Israel, with offices in North Carolina and Israel, GameEffective specializes in enterprise gamification solutions (GamEffective, n.d.). Its gamification platform is targeted at improving customer service and sales (GamEffective, 2014a), motivating employees to perform tasks in any CRM platform (GamEffective, 2014b), on-boarding of new hires and employee training (GamEffective, 2014c), employee knowledge sharing and other organizational activities (GamEffective, 2014d). Through its graphical narratives it drives change in organizations and sustainable improvement processes. The narratives used reflect the desired behaviors: progression to mastery, team building and goal achievement. The performance is measured with the help of various key performance indicators, which are subject to change once the tasks are renewed. (GamEffective, 2014e) The gamified platform accompanies employees throughout their work day, the solution being compatible with many platforms. With the help of the gamified solution the employees are
aligned with the corporate goals. (GamEffective, 2014f). GamEffective put the focus on no-code integration with popular systems such as: Salesforce, Microsoft, Oracle, Zendesk, Workday, Jive with quick deployment.

7.2 Building employee motivation with gamification

Gamification is an emerging field. In order to facilitate a better understanding of the cases’ perspective on gamification in building employee motivation and engagement, it is necessary to identify their understanding of gamification. The definitions given by the interviewees are introduced in Appendix 10. These interpretations are consistent with the definitions elaborated by Deterding et al. (2011) and Werbach and Hunter (2012, 26), introduced in table 1. The case companies have a similar perception of the concept of gamification, which provides more consistency to data analysis.

Motivation constitutes the fundamental concept of gamification (Nicholson, 2012). A clear pattern was identified among all companies in designing gamification to attain employee motivation. Business objectives are at the core of the solution, constituting the starting point in the gamified solution development. This goes in line with the first step of the gamification design process, introduced in figure 4. However, three cases emphasized that the business objectives and the employee goals need to be aligned:

“There are business goals and then there is player goals. They need to match absolutely.” (Case C)

“The good gamified system finds a balance between the business needs and behaviors that are fulfilling those needs and adjust those behaviors to best possible performance.” (Case D)

“You need to understand where to put your targets. And usually people try to meet their own targets” (Case E)
These approaches emphasize on two sides of objectives definition. On one hand, businesses need to align employees’ goals with the organization’s objectives in order to reach the target business goal. On the other hand, gamification should enable personnel to achieve their own goals, such as the targets of their performance, as described by Burke (2014, 9). Thus, enterprise gamification needs to create an environment that encourages employees to fulfill their personal and organizational goals (Werbach & Hunter, 2012, 20-25). Therefore, the goals need to be meaningful to the employees in order to internalize them. Table 5 presents a summary of the research findings related to gamification in designing employee motivation.

Table 5. Gamification in building employee motivation in case firms

<table>
<thead>
<tr>
<th>Employee motivation</th>
<th>Case A</th>
<th>Case B</th>
<th>Case C</th>
<th>Case D</th>
<th>Case E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starting point</td>
<td>business objectives</td>
<td>business objectives</td>
<td>aligned business objectives and employee goals</td>
<td>aligned business objectives and employee goals</td>
<td>aligned business objectives and employee goals</td>
</tr>
<tr>
<td>Motivators design</td>
<td>based on: • four user types or • on mathematical modelling of data on actions that bring results</td>
<td>based on employee’s intrinsic motivators</td>
<td>• based on four user types • employee-centered design</td>
<td>based on four user types</td>
<td>segmented gamification</td>
</tr>
<tr>
<td>Implementation process</td>
<td>pilot → feedback → full deployment → iterations</td>
<td>the platform hasn’t been launched yet</td>
<td>testing → constant iterations to adjust employee behaviors</td>
<td>iterations to adjust employee behaviors</td>
<td>pilot → full deployment</td>
</tr>
<tr>
<td>Motivating employees to onboard the system</td>
<td>• training related processes • easy wins to inform about the system • stress on social aspect</td>
<td>• communication to inform about the system • instant feedback to inform about accomplishments</td>
<td>• social aspect (collaborative environment)</td>
<td>• embedding gamification with all existing platforms and systems</td>
<td></td>
</tr>
</tbody>
</table>

One of the aspects on which motivators’ design is based upon is Bartle’s (1996) user typology. This pattern was identified in four of the case companies. Since the four typologies: achievers, explorers, socializers and killers are mutually inclusive rather than exclusive (Bartle, 1996; Zichermann & Cunningham, 2011, 23; Werbach, 2014d), each of the user type can be represented in a gamified solution. Moreover, Case A has a
separate design technique that allows to study the data of actions that proved to bring results in order to design the system to match the business objectives. With this approach the goal is to get to know the target audience and focus on those key motivators that are most effective, instead of a set of motivators that are targeted at all the Bartle’s (1996) user types. Despite the benefits of such an approach, only few customers are willing to invest in such highly customized solutions:

“We study based on the data what kind of actions actually do bring results and we try to gamify them. It’s basically mathematical modelling […] But, unfortunately, only few companies are willing to pay for that. They rely more on experience from the market and some research knowledge, even though it couldn’t be brought to the detailed case they are thriving.” (Case A)

Case E highlights that “gamification can’t be one design fits them all”, which applies to all case companies as they design their solutions based on each customer case. However, Case E emphasizes on cultural differences. Therefore, the gamified solution is segmented based on the culture where the solution is being implemented. Four of the case companies mentioned that the gamified solution needs to be tested before full deployment, followed by iterations in order to measure the results to identify how the behaviors have changed, and build trust with customers and employees. In Case B, the gamified solution has been designed, but not launched yet.

Gamification implementation might meet resistance because of employees’ resistance to change (Burke, 2014, 49). An earlier challenge is to motivate employees to onboard the gamification system. The case companies overcome this challenge in various ways. Easy to achieve rewards are important, as well as the social aspect of gamification, which is a collaborative environment. Employees may start using gamification because it is embedded in all the work-related platforms. Thus, enterprise gamification differs from consumer gamification because employees are
required to adopt gamification. However, one of the informants stressed on the need to offer the employee the possibility to quit the system.

The most important gamification elements perceived by the respondents are feedback and rewards. Feedback provides a sense of progress and enables the employee to learn which actions lead to rewards. Rewards are categorized in tangible and intangible, the earlier being seen as more effective in the earlier stages of gamification implementation, while intangible rewards maintain employee motivation over the long-term. This is to motivate users to engage in behaviors that gamification system promotes. Once the employees perceive the benefits, intangible rewards, such as recognition, need to be built in gamification to keep the employee motivated. Rewards are also perceived as a form of feedback. The summary of these gamification mechanics is introduced in Appendix 11.

An important aspect of rewards that emerged from the interviews is the tangible aspect of intangible rewards, when points are redeemed against physical rewards. This pattern was identified in four cases. An opposite approach was detected in Case E where tangible rewards receive intangible properties, such as when the tangible reward leads to public recognition and give a competitive edge:

“The first ten that will meet the target will join the manager in the breakfast club. It’s a tangible reward, but it sends everybody the message that those people are better.” (Case E)

Moreover, Case E perceives virtual rewards also as one’s accomplishments outside the gamification system. As a result, the intangible rewards may lead to building employee recognition and accomplishments. The effect of intangible rewards can act as a motivator to continue to engage in the target behavior.
7.2.1 Intrinsic and extrinsic motivators

Gamification is implemented to change behaviors and develop skills (Burke, 2014, 37). However, some of the work related activities that a gamification system tries to encourage might not be intrinsically motivating for the employee, which is supported by Deci (1994), Ryan and Deci (2000b) and Gagné and Deci (2005). The case companies addressed the challenge of employee encouragement to engage in less intrinsically motivating work activities by rewarding with extrinsic motivators the performance during the onboarding phase, when the workforce is introduced to the capabilities of the system. A summary of the extrinsic and intrinsic motivators perceived by interviewees is introduced in table 6.

Table 6. Perception of extrinsic and intrinsic rewards by case firms

<table>
<thead>
<tr>
<th></th>
<th>Case A</th>
<th>Case B</th>
<th>Case C</th>
<th>Case D</th>
<th>Case E</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extrinsic vs. intrinsic motivation</strong></td>
<td>extrinsic motivators in the discovery phase, but when the work starts to be productive focus on intrinsic motivators</td>
<td>extrinsic rewards used in short-term, competition like situations that do not require creativity</td>
<td>start with extrinsic behaviors and then behavior becomes intrinsic</td>
<td>provide balance between intrinsic and extrinsic motivators</td>
<td>• 80/20 or 90/10 for intrinsic vs. extrinsic rewards • extrinsic rewards are to add only an additional excitement to the gamified system</td>
</tr>
<tr>
<td><strong>Pitfalls of extrinsic motivators</strong></td>
<td>• create a culture where employees do not perform without being rewarded • expectation for larger rewards</td>
<td>• need to increase rewards each time • expensive</td>
<td>the reward becomes the reason to engage with the gamified system</td>
<td>at some point extrinsic motivators stop motivating</td>
<td>• may loose the meaning of gamification • may not work in the long-term</td>
</tr>
<tr>
<td><strong>Cognitive Evaluation Theory</strong></td>
<td>supported</td>
<td>supported</td>
<td>supported</td>
<td>rejected to some extent</td>
<td>supported</td>
</tr>
</tbody>
</table>

Therefore, the employees will perform the target behaviors because they are rewarded for it. The goal is to familiarize them with the behavior that the gamified system tries to achieve. The extrinsic rewards act in a similar way like tangible rewards, in the form of a feedback to the employee performance. This generates learning of the benefits of the target behavior. The interviewees emphasize that this is the point when the system should shift to intrinsic motivators:
“Extrinsic motivators are more used during the discovery phase when people are introduced to the capabilities of Share Point […] in the phase when your work starts to be productive, you have to change your ways of working, it should be more built on top of intrinsic motivators.” (Case A)

“First people [engage in target behaviors] because they get rewarded. They send emails like they should, they store documents in the document system like they should. Normally they would do everything by email because that’s the easiest.” (Case B)

Extrinsic rewards constitute an instrumentality between the work activity and consequences (Rummel & Feinberg, 1988; Ryan, 1995; Deci, Koestner & Ryan, 1999; Gagné & Deci, 2005). The informants highlighted that extrinsic motivators are not the core of gamification and should be carefully considered in the system design. Cases C and E stated that extrinsic rewards are just additions to the system to create short-term excitement, while Case D emphasized on the need of balance between two types of motivators:

“Extrinsic motivators are not the only kind of thing that they [employees] are reaching for. They are nice additions to have.” (Case C)

“I believe in something like 80/20 or 90/10 for intrinsic versus extrinsic rewards, otherwise you lose all the meaning.” (Case E)

“If you want to have a lasting environment that is successful, it has to have a balance between intrinsic and extrinsic rewards.” (Case D)

Table 6 introduces the pitfalls of extrinsic motivators. The largest disadvantage mentioned by case companies is that extrinsic rewards might turn into the reason of engagement into the target behavior. As a result, employees will not perform in the absence of the external contingency.
7.2.2 Cognitive Evaluation Theory

The cognitive evaluation theory argues that an anticipation of external rewards diminishes intrinsic motivation for an interesting activity (Deci, 1971; Rummel & Feinberg, 1988; Ryan, 1995). Considering the context to which gamification solutions are applied by case firms: educating employees to manage information and knowledge in a central way, introducing information in the CRM system and other daily routines, the activities are not intrinsically motivating. However, four case companies still support the undermining effect of extrinsic rewards on intrinsic motivation:

“If you teach your crew do things only if you pay them, then you create culture requiring continuous payments and all the time bigger payments […] They start to expect more and more. Then, if you get only small things, they think that it is not motivating. It’s kind of achieved benefits trap.” (Case A)

“You need to give something more every time because they are not satisfied with the same anymore next time.” (Case B)

“If it is only for the extrinsic rewards at the end of the day, then you will not get the benefit out of it ultimately.” (Case C)

“If you put 50/50 [intrinsic versus extrinsic motivators] you put 50/nothing.” (Case E)

The interviewees claim that the target behaviors are to add value and meaningfulness to the employee and the organization. Therefore, as long as the employees understand the purpose of the target behavior and perceive the value they add to their daily work activities, they would develop motivation to perform. Case D did not support the cognitive evaluation theory. Instead, it supported Cameron and Pierce (1994) in that extrinsic motivators do not affect the intrinsic motivation. The informant emphasized that the two types of rewards can be additive rather than exclusive. The
rewards do not diminish the willingness to work on activities. Considering that the tasks the case D gamifies relate to CRM activities, supports that extrinsic rewards would not undermine the employee motivation, but rather enhance it.

“[change behaviors] by using extrinsic rewards to motivate [employees] to move along the path to reach that goal. So, we are creating extrinsic as strategies to support intrinsic motivators.” (Case D)

Case A emphasized on the changes in the business environment as being the reason why extrinsic rewards can be effective also in the long-run. The employees might not possess enough intrinsic motivation to adopt a change. Therefore, learning is driven by extrinsic motivators in the beginning of a new change adoption process:

“Whenever there will be big changes, you force your employees to learn a lot [...] And it may be the case when internal motivation is not big enough to drive people to invest [their time in learning]. Then you can use external rewards in the long-run.” (Case A)

In this situation, extrinsic motivators are implemented to build employee motivation to engage in less intrinsically rewarding activities (Ryan, 1995; Ryan & Deci, 2000b; Gagné & Deci, 2005). The employees’ locus of causality is external to the self (Deci, 1971; Deci & Ryan, 2000; Ryan & Deci, 2000b). Thus, employees might experience their actions as generated by external factors (Turban et al., 2007; Hagger & Chatzisarantis, 2011). Considering that the goal is to shift to intrinsic motivation once the change is adopted, the employee should experience an internal locus of causality. However, this should be further studied from the perspective of employees, this being beyond the scope of the present research.
7.2.3 Internalization

Internalization represents the process when the behavioral regulations in the form of extrinsic rewards and the system’s goals are assimilated as one’s own (Ryan, 1995; Ryan & Deci, 2000a). The case companies were familiar with the process of internalization. A summary of companies’ internalization process is introduced in table 7.

Table 7. Internalization of behavioral regulations seen by case companies

<table>
<thead>
<tr>
<th>Case A</th>
<th>Case B</th>
<th>Case C</th>
<th>Case D</th>
<th>Case E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internalization</td>
<td>use extrinsic</td>
<td>internalizing</td>
<td>the goal of</td>
<td>the impact of</td>
</tr>
<tr>
<td>motivators in</td>
<td>motivators in</td>
<td>the target</td>
<td>gamification</td>
<td>extrinsic</td>
</tr>
<tr>
<td>the beginning</td>
<td>the beginning</td>
<td>behavior by</td>
<td>is to turn</td>
<td>rewards will</td>
</tr>
<tr>
<td>to onboard</td>
<td>to onboard</td>
<td>learning the</td>
<td>extrinsic</td>
<td>vanish in the</td>
</tr>
<tr>
<td>employees to the</td>
<td>employees to the</td>
<td>benefits of</td>
<td>behavior into</td>
<td>long-run;</td>
</tr>
<tr>
<td>phase where</td>
<td>phase where</td>
<td>that behavior</td>
<td>intrinsic</td>
<td>internalizing</td>
</tr>
<tr>
<td>learning curve</td>
<td>learning curve</td>
<td>promoted by the</td>
<td></td>
<td>the target</td>
</tr>
<tr>
<td>grows based on</td>
<td>grows based on</td>
<td>the gamified</td>
<td></td>
<td>behavior by</td>
</tr>
<tr>
<td>intrinsic</td>
<td>intrinsic</td>
<td>system</td>
<td></td>
<td>seeing its</td>
</tr>
<tr>
<td>motivators</td>
<td>motivators</td>
<td></td>
<td></td>
<td>benefits</td>
</tr>
</tbody>
</table>

An important finding is the interviewees’ perception of internalization. The self-determination theory states that internalization refers to the three processes of introjection, identification and integration (Deci et al., 1994; Ryan, 1995; Ryan & Deci, 2000a; Gagné & Deci, 2005). Thus, internalization occurs only within extrinsic motivation. As seen in table 7, the research results show that the informants perceive internalization as the process of turning extrinsic motivation into intrinsic motivation. Therefore, gamification practitioners do not differentiate between the four different types of extrinsic motivation that was introduced in figure 6. However, they perceive internalization as the process of transforming external regulation into internal regulation by integrating those regulations into oneself though the process of learning of the benefits of the target behavior.

According to self-determination theory, the highest level of integration is the integrated regulation, see figure 6. Thus, gamification system can reach integrated regulation through internalization, which shares similar
characteristics with intrinsic motivation, which are self-determined behavior and building autonomous motivation (Ryan, 1995; Deci & Ryan, 2000; Gagné & Deci, 2005). The research results direct toward the fact that instead of intrinsic motivation, gamification can build autonomous motivation at the highest level of extrinsic motivation, which is integrated regulation, where employees can reach a sense of self-regulation and become self-determined (Ryan, 1995; Ryan & Deci, 2000a; Ryan & Deci, 2000b; Gagné & Deci, 2005). This is because gamification needs to have a structure, which can be perceived as controlled motivation, as Case D explained:

“Your game environment needs to have a clear structure because you need to have a clear understanding of what is expected of you to do. Therefore, you have to have a predefined way of game environment which is controlled […] through the reward mechanism […] gives you a level of autonomy because you will receive only those successes and those rewards based on those actions you have done at your own free will within that structured gamified environment.” (Case D)

Case E underlines on the need to create a sense of autonomy and choice in the gamification system by giving the employee the possibility to choose the benchmark to follow. Through choice the employee has a feeling of empowerment. Moreover, the challenge of the employee perceiving his motivation as being controlled in the gamified system is overcome through the system’s transparency:

“create some type of autonomy and choice […] the [employee] has the choice whether to compare himself to the benchmark of the average or push for the top performance. When you commit to chase the top performance it would be your choice.” (Case E)

As a result, it can be claimed that gamification can reach autonomous motivation from the extrinsic motivation perspective because the behaviors
motivated by integrated regulation are attained for their instrumental value for personal goals rather than for inherent interest and enjoyment in the activity (Ryan, 1995; Ryan & Deci, 2000a; Ryan & Deci, 2000b; Gagné & Deci, 2005). Employees are performing the target behaviors because they see the value in the activities, even though may not experience inherent interest in the activity. This resembles more the extrinsic side of autonomous motivation rather than the intrinsic side.

Two of the interviewees highlighted the need to provide employees a sense of autonomy and choice. This facilitates an internal perceived locus of causality as the employee feels as the initiator of own actions (Deci et al., 1994; Ryan, 1995; Deci, Koestner & Ryan, 1999; Baard, Deci & Ryan, 2004; Gagné & Deci, 2005) and in control (Deci & Ryan, 2000; Turban et al., 2007). The other two psychological conditions: competence and relatedness were emphasized by the informants in the form of gamification design that needs to match with the capabilities of the employees and give possibilities to match personal and organizational goals.

7.3 Gamification in managing the course of motivation in pursuing behavioral outcomes

The level of motivation evolves over the course of a focal goal taking a cyclical pattern (Touré-Tillery & Fishbach, 2011). This aspect was supported by all of the case companies. Moreover, informants specified that the cyclical aspect was not only caused by the motivation at the employee level, but also the cyclical aspect of the changes in the business environment. These changes in the business need to be addressed in the gamified system to drive employee behavior change.

Case B and E emphasize on the need to increase complexity once the employees have learnt the benefits of the target behavior in order to shift their motivation to the next target behavior. Furthermore, Case A and Case C claim that cyclical aspect of employee motivation could be brought to a
more constant level with the help of gamification through the motivators that can increase the employee motivation when its level diminishes:

“[motivation is cyclical] but you can try to create it more constant and affect it by using gamification [...] when it is not affecting anymore you can bring something surprising that will create right momentum for you and maybe push motivation more.” (Case A)

“motivation is very much up and down, but we can use gamification when it’s [motivation] on its way down to bring it up again.” (Case C)

Case A emphasized that the average level of employee motivation is more essential than the motivation at the individual level in gamification. The focus of motivation is significant in pursuing a focal goal. The motivation can be outcome-focused characterized by the effort to attain the goal and the means-focused motivation by using the right means in reaching that certain target (Touré-Tillery & Fishbach, 2011). A summary of the informants’ perceptions on the course of motivation is presented in table 8.

Case A stated that the type of motivation is dependent on the organizational level. At the operational level, means-focused motivation is important because the tasks need to be held with high certainty. On the other hand, at the managerial level, there is need for creativity to reach the focal goal, which can be reached with the outcome-focused orientation. Case E highlighted that it focuses on both types of motivation. Through outcome-focused motivation it ensures that the business reaches short-term results because gamification should facilitate business goal fulfilment. Means-focused motivation is also necessary to ensure that the actions driven by the outcome-focused motivation are sustainable and build right behaviors in the long-term.
Table 8. Course of motivation perceived by case companies

<table>
<thead>
<tr>
<th>Case</th>
<th>Motivation pattern</th>
<th>Outcome-focused vs. means-focused motivation</th>
<th>Monitoring motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>cyclical • due to changes in business environment • attempt to make motivation constant with gamification • reach a constant level based on average of employee motivation</td>
<td>at operational level - means-focused motivation; at managerial level - outcome-focused motivation in the sense of creativity (thinking out of the box)</td>
<td>• game master in charge of gamified system's rules • transparency in the system • in some cases, the goal is to make employees find ways to cheat the system</td>
</tr>
<tr>
<td>B</td>
<td>cyclical • once the behavior is learned the system should provide the next challenge • increase complexity along the learning curve</td>
<td>means-focused motivation</td>
<td>each focal goal consists of sub-goals (smaller challenges)</td>
</tr>
<tr>
<td>C</td>
<td>cyclical • gamification is to increase motivation when its level diminishes</td>
<td>means-focused motivation</td>
<td>fulfilling the criteria for a sub-goal before moving to the next one</td>
</tr>
<tr>
<td>D</td>
<td>cyclical • due to changing business environment • build a cyclical environment to reengage and refocus employees on new behaviors</td>
<td>means-focused motivation</td>
<td>• provide structure in fulfilling a goal • system administrator to monitor behaviors and identify those that are not beneficial for the organization • point deduction for not using right means in pursuing the goal</td>
</tr>
<tr>
<td>E</td>
<td>cyclical • increase complexity over time • the gamification system is designed in cycles</td>
<td>2/3 of outcome-focused motivation to reach results in the short-term 1/3 of means-focused motivation to build sustainable behaviors in the long-run</td>
<td>• antigaming mechanisms such as social activities, points deduction • mechanisms to ensure quality over quantity</td>
</tr>
</tbody>
</table>

Cases B, C and D specified that they try to pursue means-focused motivation in their gamification system. The goal of the gamification system is to deliver behaviors that provide value not only to the organization, but also to the employees by pursuing a goal in a way that supports one’s regulatory orientation. This is to lead to a regulatory fit (Higgins et al., 2003; Higgins, 2005) between the regulation of the gamified system and employee’s internal values. These informants emphasized the need to divide each major goal into sub-goals in the form of smaller challenges. This supports that having sub-goals should encourage employees to use the right means in reaching the goals, while shortening the gap between the current and end state, proposed by Touré-Tillery and Fishbach (2011), as illustrated in figure 7. Based on the research results related to the course of employee motivation, the focal goal which in most cases is to change...
employee behavior, is divided into smaller goals, which are divided into sub-goals respectively. As the cases emphasized on the means-focused motivation, the U-shaped curve constitutes each of the larger goals that together lead to the focal goal, as illustrated in figure 11.

Figure 11. Employee motivation in the course of goal pursuit

Based on the means-focused motivation the employee motivation is highest in the beginning and at the end of the course of goal pursuit. Thus, the sub-goals are to enhance the motivation to monitor that employees use the right means in reaching that target. (Touré-Tillery & Fishbach, 2011). Moreover, the proximity to each larger goal should increase the employee motivation (Kivetz, Urminsky & Zheng, 2006) to engage in target behaviors in order to reach that goal. In this way, the system is monitored in order to diminish the possibility of employees cheating the system while developing skills necessary to meet the target behavior:

“There should be one challenge […] it can consist of some smaller challenges and then there is another one […] we want employees to reach a focal goal, but they can’t reach it if they don’t do things right.” (Case B)

“Our gamification platform is designed exactly that you have to fulfill certain conditions before you can progress through the system.” (Case C)
“It is important that a gamified environment provides users with structure [...] The structure is something that leads employees to following the business goals and business process and delivers the motivation that comes from that aspect.” (Case D)

In addition to sub-goals, Case A and Case D have system administrators that monitor the employee motivation, while Case E implements anti-gaming mechanisms, such as social activities. Case D and Case E deduct points for behaviors that do not match with the target goal. Case A claimed that in some situations, the goal of the gamified system is to encourage the employees to find creative ways to cheat the system. Therefore, this should be perceived as a possibility to identify the loopholes in the gamification system that can be considered in developing the system further.

Future time perspective is a cognitive-motivational construct that is the degree to which the future is integrated into one’s presence (de Bilde, Vansteenkiste & Lens, 2011; Lens et al., 2012), emerged from Case D. The interviewee D stated that extrinsic rewards in the long-run help employees to connect to the final goal. Thus, extrinsic motivation is a goal-directed regulation for future goals caused by their instrumentality (de Bilde, Vasteenkiste & Lens, 2011; Lens et al., 2012). As a result, extrinsic motivators are important in integrating the future goals into the psychological presence of the employee.

7.4 Enhancing employee engagement with gamification

Macey and Schneider (2008) claimed that there is a large number of theories on motivation and engagement, but these two concepts have not been integrated yet. The informants were asked of their perception on the relationship between motivation and engagement in the gamification context. Case B, Case D and Case E perceive engagement as an outcome of engagement. Furthermore, interviewees B, C and E view engagement as enhancing employee motivation in the context of gamification.
“one point where motivation becomes or will create engagement […] engagement can increase your motivation.” (Case B)

“Motivation kick starts the relationship, but engagement enables you to keep employees there for longer periods of time heading toward these goals and maybe more motivated.” (Case C)

“Motivation is also the result and the cause […] you will learn then will increase your motivation to engage” (Case E)

Thus, there is a two way relationship between motivation and engagement, each leading to other’s enhancement. In addition, Case A does not differentiate between the two concepts, as they are both measured in terms of action. Based on the interview data analysis the psychological conditions for employee engagement in the gamification solution emerged, the summary of the findings being represented in table 9.

Kahn (1990; 1992) stated that three psychological conditions lead to employee engagement at the work place: psychological meaningfulness, safety and availability. Psychological meaningfulness is the condition that emerged the most from the studied cases. Informants emphasized on the need to develop meaningful tasks in the gamification system at the employee and organizational level, by aligning business objectives with employee’s personal goals. Meaningfulness is built in the case companies’ gamification solutions by meeting the relatedness need through the social aspect of gamification and contributing to creation of a greater good – the company’s performance. Moreover, Case E delivers meaningfulness to the employees by providing a sense of autonomy and choice. Employees perceive psychological meaningfulness in engaging in the target behavior because they are making the choice with path to follow in reaching the goals. These results support that meaningfulness is derived from autonomous tasks, which when performed, lead to a sense of competence
and learning, while meeting the relatedness need (Kahn, 1990; Spreitzer, 1995; May, Gilson & Harter, 2004).

Table 9. Employee engagement in the case companies

<table>
<thead>
<tr>
<th>Motivation-engagement relationship</th>
<th>Case A</th>
<th>Case B</th>
<th>Case C</th>
<th>Case D</th>
<th>Case E</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>seen as same thing</strong></td>
<td>engagement is a result of one's motivation</td>
<td>engagement is a result of one's motivation</td>
<td>motivation is driven by an extrinsic or intrinsic motivator, engagement keeps employees aligned with the goal overtime</td>
<td>engagement is a result of one's motivation</td>
<td>motivation leads to engagement</td>
</tr>
<tr>
<td>• measured based on the action level</td>
<td>• at a certain level motivation becomes engagement</td>
<td>• engagement can increase one's motivation</td>
<td>• engagement seen as the action level</td>
<td>• engagement can increase one's motivation</td>
<td>• engagement results in enhanced motivation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Psychological conditions of engagement</th>
<th>Case A</th>
<th>Case B</th>
<th>Case C</th>
<th>Case D</th>
<th>Case E</th>
</tr>
</thead>
<tbody>
<tr>
<td>• meaningfulness of tasks</td>
<td>meaningfulness of tasks by meeting the relatedness need</td>
<td>meaningfulness of tasks by meeting the relatedness need</td>
<td>meaningfulness of actions leading to internalization of new behaviors</td>
<td>meaningfulness of tasks by meeting the relatedness need</td>
<td>meaningfulness of tasks by giving a sense of autonomy and choice</td>
</tr>
<tr>
<td>• employee's personal resource availability</td>
<td>• employee's personal resource availability</td>
<td>• employee's psychological safety to engage in target behaviors</td>
<td>• employee's psychological safety to engage in target behaviors</td>
<td>• employee's psychological safety to engage in target behaviors</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level of engagement</th>
<th>Case A</th>
<th>Case B</th>
<th>Case C</th>
<th>Case D</th>
<th>Case E</th>
</tr>
</thead>
<tbody>
<tr>
<td>• cognitive (trait)</td>
<td>behavioral</td>
<td>behavioral</td>
<td>behavioral</td>
<td>emotional (state)</td>
<td>cognitive (trait)</td>
</tr>
<tr>
<td>• behavioral</td>
<td></td>
<td></td>
<td></td>
<td>emotional (state)</td>
<td></td>
</tr>
</tbody>
</table>

In addition to psychological meaningfulness, the psychological availability emerged in Case A and Case D. Psychological availability stands for the employee’s possessing physical, emotional and cognitive resources to engage in a task performance (Kahn, 1990) and resembles employee’s personal resources (Schaufeli & Bakker, 2004; Bakker & Demerouti, 2007; Bakker & Demerouti, 2008). The interviewees A and D underlined that employees have physical and mental limitation to engage in their role performance at the workplace, personal life interfering with the work activities. Moreover, psychological safety, which is a sense of employee engaging in without negative consequence due to perceived organizational support (Kahn, 1990; May, Gilson & Harter, 2004; Saks, 2006), emerged only in Case D. The informant D stated that the structure of the gamification
solution should make the employees feel comfortable in performing their tasks. The safety also comes in the form of feedback that informs employees of their performance.

As a result of the above mentioned psychological conditions, meaningfulness plays an essential role in driving employee engagement in gamification. This supports the finding of May, Gilson and Harter (2004) that meaningfulness has the strongest effect on engagement. The employee will invest effort in tasks that are perceived as meaningful (Shuck & Rose, 2013). Therefore, meaningfulness constitutes one of the positive conditions for employee engagement and one of the “engagement of conditions” that Shuck and Rose (2013, 344) where referring to.

According to Kahn (1999; 1992) personal engagement is the employee’s employment in behaviors being cognitively, emotionally and physically present in their tasks performances. The interviewees highlighted that their gamification solutions target at engaging employees at behavioral level. This is the ultimate goal because behavioral engagement is the physical manifestation of the cognitive and emotional engagement (Shuck & Herd, 2012; Shuck & Rose, 2013; Shuck & Reio, 2014), also named trait and state engagements (Macey & Schneider, 2008), as illustrated in the employee engagement model introduced in figure 8. The behavioral engagement leads to business results. Thus, behavioral engagement is perceived as the ultimate level of engagement because it drives action. However, Case A and E stated that cognitive engagement is also a form of action, Cases D and E aiming also at the emotional engagement. The cognitive and emotional engagements are important because they are a pre-stage of behavioral engagement. In the Case E’s gamified solution cognitive engagement is built through public recognition, while emotional engagement is reached through the game narrative.

Engagement occurs at all the three levels. However, the peak of cognitive absorption constitutes the state of flow, which is mostly experienced in
Since gamification is based on game-like techniques (Ryan, Rigby & Przybylski, 2006; Deterding et al., 2011; Vassileva, 2012; Kosmadoudi et al., 2013; Mollick, 2014), the flow can be experienced in gamification. The perception of flow in the context of gamification was dispersed among the case companies. Case A, Case D and Case E support the state of flow. However, Case C states the scope of gamification is beyond the state of flow, reaching the business objectives being more important than the state of cognitive absorption. On the other hand, Case B cannot facilitate flow in its gamification solution because it focuses on changing employee daily routines. The state of flow cannot be experienced in this short-time frame when performing routines. As a result, the experience of flow depends on the gamification solution and the context it is being applied to. To fulfill business objectives, behavioral engagement is necessary because it is reflected in the employee action.

Due to emerging employee engagement gap at the workplace (Attridge, 2009; Bates, 2004; Richman, 2006; Saks, 2006), the question of how gamification can overcome the challenge of some of the employees being more engaged than others was addressed to the case companies. Two common points emerged. The first is that the gamification solution should address all Bartle’s (1996) user types. The second aspect is the team spirit. The interviewees underlined that the challenge of less motivated employees can be solved by implementing a team-based gamified system by creating team spirit and social pressure to engage within the team. Case A emphasized that, alike the case of motivation, engagement should be looked at from the average level rather than the employee level as the engagement will fluctuate at the individual level.
7.5 Gamification in sustaining motivation and engagement over the long-term

The gamified system developers and companies implementing gamification face not only the challenge to onboard employees to adopt the gamification solution, but also to maintain their motivation and engagement over the long-term. The research results related to the course of motivation were introduced in sub-chapter 7.3. When asked of their perception of gamification in building and maintaining employee motivation over the long-term, the informants reflected on the role of extrinsic and intrinsic rewards overtime. The results of the motivators type was introduced in table 6. The cases emphasized on the use of intrinsic rewards in the long-term, the extrinsic motivators vanishing once the behavior is being internalized by the employee. This supports Burke’s (2014, 18-19) statement that extrinsic motivators are not sufficient to drive employee motivation and engagement.

However, Case A underlined that extrinsic rewards might still be used in the long-term due to changes in the business environment that require to adapt the gamification solution to generate new target behaviors. These changes in the environment require employees to learn new skills and behaviors, which constitute activities that are not intrinsically motivating. Therefore, the extrinsic motivators are to encourage employees to engage in the gamification solution. The tangible rewards do not diminish the intrinsic motivation in the case of less intrinsically motivating tasks (Deci, 1971; Deci, Koestner & Ryan, 1999). In addition, Case C stated that the long-term motivation is achieved through the internalization of goals and behaviors. Thus, employee motivation is to add self-regulation of activities in the long-run in the absence of external regulation (Ryan, 1995; Ryan & Deci, 2000a).

As supported by the results presented in table 8, motivation takes a cyclical pattern. Engagement takes a similar pattern due to employees’ experience of leaps and falls in engagement (Kahn, 1990; Macey & Schneider, 2008). Four case companies supported that employee engagement fluctuates.
Case A emphasized that engagement fluctuates at the employee level, but engagement can be brought to a more constant level with the help of gamification by looking at averages of employee engagement level. Case B perceives engagement as constant because its solution targets daily routines. Performing routines requires the employee to be engaged in that specific moment. The summary of research results related to long-term employee motivation and engagement is presented in table 10.

Table 10. Summary of long-term motivation and engagement in case firms

<table>
<thead>
<tr>
<th></th>
<th>Case A</th>
<th>Case B</th>
<th>Case C</th>
<th>Case D</th>
<th>Case E</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Long-term motivation</strong></td>
<td>• usage of intrinsic motivators</td>
<td>• usage of intrinsic rewards</td>
<td>• the behavior should become intrinsically motivating</td>
<td>• find a balance between intrinsic and extrinsic motivators</td>
<td>extrinsic rewards will vanish</td>
</tr>
<tr>
<td></td>
<td>• usage of extrinsic motivators because of changing business environment and need to encourage employees to learn; activities that are not intrinsically motivating</td>
<td>• introduce employees to new challenges</td>
<td>• provide meaningfulness</td>
<td>• provide changing gamification environment to meet the changes in the business</td>
<td></td>
</tr>
<tr>
<td><strong>Engagement pattern</strong></td>
<td></td>
<td>constant</td>
<td>fluctuates</td>
<td>fluctuates</td>
<td>fluctuates</td>
</tr>
<tr>
<td></td>
<td>• fluctuates at individual level</td>
<td>beyond the system's goal due to gamification being removed once the target behavior is learnt</td>
<td>resetting the clock frequently to enable equal participation</td>
<td>new challenges and rewards</td>
<td>• show employees the benefits of their actions</td>
</tr>
<tr>
<td></td>
<td>• tries to achieve constant level on average</td>
<td></td>
<td></td>
<td></td>
<td>• change the narratives and renew the system</td>
</tr>
<tr>
<td><strong>Long-term engagement</strong></td>
<td>show employees the benefits of their actions (meaningfulness)</td>
<td>show employees the benefits of their actions (meaningfulness)</td>
<td>resetting the clock frequently to enable equal participation</td>
<td>new challenges and rewards</td>
<td>• show employees the benefits of their actions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• change the narratives and renew the system</td>
</tr>
<tr>
<td><strong>Gamification life cycle and system renewal</strong></td>
<td>continuous improvement of the system to meet the changes in the business environment</td>
<td>six months • extend the lifecycle by having the employee setting own goals</td>
<td>alike games, gamification has a life cycle • deploy the system under new themes</td>
<td>renew the system with new tasks and behaviors that will meet the changes in the business</td>
<td>six months • provide changing dynamics to facilitate progress in the system</td>
</tr>
</tbody>
</table>

The employee needs to perceive psychological meaningfulness in order to engage in a target behavior in the long-run (Werbach & Hunter, 2012, 68), translating the engagement from cognitive all the way to behavioral level (Saks, 2006; Macey & Schneider, 2008; Shuck & Wollard, 2010; Shuck & Herd, 2012). Cases A and E highlighted the need to provide employees with
meaningfulness by informing the benefits for the organization generated from their actions. Meaningfulness of challenges in gamification build a user-centric design (Nicholson, 2012; Burke, 2014, 21-24). On the other hand, Case B does not focus on long-term engagement due to its focus on employee’s daily routines. Once the behavior is learnt, gamification is removed from work activities. Moreover, Case C emphasizes that resetting the system on regularly basis contributes to long-term engagement because it gives the opportunity for each employee to start from equal positions. As a result, the demotivation caused by previous poor performance is reduced.

Engagement is reflected in the employee action. Each behavioral engagement is followed by a feedback in the form of reward or other gamification components, which leads to an increase in motivation (Werbach & Hunter, 2012, 95) to engage in the target behavior. This constitutes the engagement loop, which was mentioned by all case companies. To maintain the employee motivated and engaged over the long-term, the gamified system should facilitate player journey by increasing not only the level of difficulty, but also providing new challenges (Werbach & Hunter, 2012, 96-98; Burke, 2014, 116), as supported by case companies:

“It wouldn’t be getting more difficult and more difficult, but new challenges will be brought in.” (Case B)

“You need to be coming up with new exciting tasks, new exciting behaviors [...] to add into your gamified environment to provide a lasting experience for your users.” (Case D)

“You need to create a changing story, narrative, when you go from one level to the other something will happen. You will need to create dynamics that are changing all the time.” (Case E)

Motivation and engagement fuel themselves to advance in the levels provided by narratives in the gamified system, as illustrated in figure 9.
a result of the player journey, gamification can be perceived as iterative. However, gamification has a life cycle. Cases B and E state that their solutions are renewed every six months. The firms stated that the gamification system needs to be renewed in order to address the changes in the business environment. Case C stated that gamification can be deployed under different themes. Case E underlined that changing dynamics will provide progress in the system, as presented in figure 9. Case B claimed that its solution’s life cycle can be extended by having the employee setting own goals, leading to increased commitment to the goal.

7.6 Gamification as a means for work motivation, employee engagement and behavioral outcomes

The above sub-chapters introduced the research results related to employee motivation and engagement built with the help of gamification. In this chapter, the main research question will be answered. Moreover, behavioral outcomes will also be addressed. Burke (2014, 9) states that gamification is a means to motivate users to achieve their goals. The case companies perceive gamification in a similar way, seeing it as a means to achieve predefined employee behaviors. Therefore, gamification drives employee behaviors by enhancing personnel’s motivation and engagement:

“Gamification is a layer to get [employee motivation and engagement] and actually get to the outcomes.” (Case C)

“Gamification is a vehicle that helps people to connect with business solutions […] and helps engage users, motivate them.” (Case D)

Since gamification is only a means to reach a certain outcome, it is of less importance to be mentioned. Since it is a buzz word and business-to-business customers are mainly interested in the results gamification brings. Case A states that gamification means less to its customers, thus it remains behind the scenes. As a result, despite the results gamification delivers to
businesses, customers are not willing to reveal that they are implementing gamification. To avoid any misinterpretation of the concept and any problems in the disillusionment phase of gamification adoption by businesses, Case B stated that it avoids using the buzz term:

“A contact center was really excited about gamification during sales process, but just before we signed the contract they said that it’s essential we’ll never ever mention the word gamification during the project.” (Case A)

“We are not talking about gamification to end-users […] We are trying to avoid that buzz word […] because people will understand it in a wrong way […] We just have this employee satisfaction measuring system.” (Case B)

Despite the negative connotation of gamification, it is a very powerful tool in the implementation, as Burke (2014, 11) states that when applied effectively, gamification can generate business results. The case companies translate the employee motivation and engagement from the gamification system into actual behavior at the workplace because the system is built on the business objectives and work context. The employee will be rewarded in the gamification system only when the target behavior is performed at the workplace. Therefore, gamification needs to be designed starting with the business objectives and the target behavior that is to be achieved. Moreover, the outcome of gamification needs to be measured in relation to the business objectives. This approach to gamification implementation overcomes the problem of poor gamification design that constitutes a cause to gamification solution failures (Burke, 2012a; Burke, 2012b; Gartner, 2012; Burke, 2014, 6-8, 151-152).

The informants specified that there is no single behavioral outcome from gamification. Case A stated that gamification can be applied to human resource activities such as learning, performance management and recruiting processes. Case B specified that one of the gamification outcome is improved ways of working. On the other hand, Case C perceives
internalization as an outcome of gamified solution implementation. Case E underlines that the main outcome of gamification is behavior change in the form of better performance in sales, customer service, reporting to the CRM service or any other work related activity. From the variety of outcomes mentioned by the case firms, all involve a level of behavior change. As a result, employee behavior change is a significant outcome of gamification, whether it involves improvement of existing behaviors or learning new ones. The informants highlighted that the behavior change is to enhance the company’s performance. The case firms underlined that the outcomes are a result of the business objectives the gamification system is built upon.

As a result of the above, gamification has opportunities in the area of change management (Gartner, 2012; Burke, 2014; 49). Gamification can engage employees to change their behaviors, a process that requires personnel’s learning (Gartner, 2012). Gamification is perceived as creating processes that target defined behaviors that promote employees to change their behaviors. Thus, the gamified experience can reinforce employees to change by learning the benefits of the target behavior. To facilitate behavior change, Case D emphasized on the Fogg’s (2009) behavior model of persuasive design, motivation to engage in the target behavior being complemented by the ability to perform the behavior and triggers that reinforce that behavior. The ability to perform the target activity resembles the psychological availability (Kahn, 1990) to engage in the task performance. Triggers can reinforce employees to learn a target behavior by persisting at each engagement cycle along the progression loop illustrated in figure 9, until the target behavior is internalized as one’s own.

The connection between employee behavior and business results was highlighted by Case A. Informant A stated that identifying the actions that bring good financial results is necessary to take business forward. This way the impact of gamification on performance is proven. The business results are beyond the purpose of this research and should be studied separately.
7.7 Future of gamification perceived by case companies

Gartner (2012) has placed gamification on the peak of inflated expectations of the Hype Cycle for Emerging Technology as of 2013 as illustrated in Appendix 1, forecasting to approach the disillusionment phase as of 2014. (Burke, 2012a; Burke, 2012b; Gartner, 2012; Burke, 2014, 6-8, 151-152) The case companies overcome the disillusionment phase in a variety of ways. Case A stated that it promises its customers what it can deliver, emphasizing that bringing results to the client is the most important factor of success in the long-term. Case B’s approach is to avoid using the term of gamification because of its negative connotation and possible misinterpretation of the concept. Firm B prefers to refer to gamification as the employee satisfaction measuring system. Case C opts for game-mechanics term rather than gamification. In addition, Cases D and E underlined that the disillusionment phase can be overcome by educating the potential customers and the human resource specialists of the benefits of gamification. Case E has also noticed recently that companies are learning about gamification, leading to a shift of gamification solution sales process from outbound to inbound approach, the potential customers approaching the firm and requiring to solve well defined problems:

“In the last quarter we noticed that [...] companies started to understand what they can do with gamification. They call us and tell they need this and that and can we provide it. It's a changing trend.” (Case E)

Furthermore, Case E suggests that customers’ credibility in gamification can be won by encouraging organizations to start with small processes such as new hires onboarding. Once the benefits are learnt, the company can shift to full implementation. Informant E states that overcoming the disillusionment phase requires companies to develop their solutions from the simple points, badges and leaderboards mechanisms to more sustainable solutions based on employee motivation, engagement and path to mastery. Thus, the right implementation of gamification is key to success.
The term of gamification does not capture the phenomenon in each of its aspect (Werbach & Hunter, 2012, 26) leading to misunderstanding of the concept (Burke, 2014, 7-8). This is supported by case firms, stating that the term is full of fraud and the concept itself does not tell customers of the benefits. As a result, all the case companies perceive that the term will disappear in the long-term. Case A claims that gamification term is selling at the moment, but in the long-run might not. Interviewee A suggests that the term might turn into human-centric development. Case C, D and E see the possible disappearance of the term as a positive situation because of the term’s negative connotation and its complexity, which is difficult for potential customers to process. Alike other innovations, the term may vanish as game-mechanics will become part of other mechanisms and processes.

The case companies forecast that the mechanisms behind gamification will remain on the market, being embedded as part of other processes and systems. Case B and Case D see that the mechanism will remain because it has value to businesses. Case C supports gamification in the future as part of the service design process and user-experience, rather than emerging as a separate industry. In addition to simple gamification elements being embedded in other systems, Case E forecasts that gamification in a holistic approach will emerge as an independent segment on the market:

“Many systems will have gamification or reputation mechanisms embedded […] The simple gamification will be embedded [in existing systems] and the more holistic gamification will be an independent segment.” (Case E)

In addition, case companies mentioned the timing of gamification adoption by geographical region. Cases A and C stated that gamification is mostly adopted in the US market, Europe being behind in the gamification implementation. Both informants see gamification coming to Europe. Furthermore, gamification has potential for the future. Companies need to understand how critical is employee motivation and engagement in designing and implementing gamification solutions.
8. DISCUSSION AND CONCLUSIONS

This study looked upon gamification as a means to enhance employee motivation and engagement from the perspective of gamification solutions’ developers. The research results support that gamification is a powerful tool if implemented correctly, Burke (2014, 11) stating that only then gamification can generate business results. Gamification should not be limited only to the simple game-mechanics such as points, badges and leaderboards, which is a simple approach to gamification and has led to failures of gamification systems (Werbach & Hunter, 2012, 71; Hamari, Koivisto & Sarsa, 2014; Werbach, 2014b). Poor design and misunderstanding of motivation and engagement strategies constitute some of the main causes of failure of gamification (Burke, 2012a; Burke, 2012b; Gartner, 2012; Burke, 2014, 6-8, 151-152). These have caused inflated expectations of gamification and the failure in fulfilling these expectations has led to disillusionment in gamification (Gartner, 2012). Therefore, employee motivation and engagement should be at the core of the gamification design, along with the business objectives.

Gamification can build employee motivation to engage in less intrinsically motivating work-related activities. In the context of less interesting tasks, rewarding performance with extrinsic motivators should not undermine intrinsic motivation (Deci, 1971; Deci et al., 1994; Ryan & Deci, 2000b; Gagné & Deci, 2005). Considering that the context of the gamified solutions of the case companies relate to tasks that are less inherently interesting but necessary activities, such as inputting data into the CRM system, increasing the number of customer calls, and other duties, gamification is applied to boost employee motivation to engage in their role performance. Case companies claimed that extrinsic motivators are effective in making the employee learn about the benefits of the target behavior to the organization. Despite the context, the interviewees underlined that extrinsic rewards can undermine employee intrinsic motivation in the long-run, supporting the cognitive evaluation theory (Deci, 1971; Deci & Ryan, 2000; Ryan & Deci,
As a result, the undermining effect of extrinsic rewards persists even in the context of activities that are learnt as meaningful and important, even if they are not intrinsically motivating. Moreover, only one case company perceives these two types of motivators as additive rather than positively or negatively interactive (Deci, Koestner & Ryan, 1999; Gagné & Deci, 2005; Alhaji & Yussof, 2012). The effect of extrinsic and intrinsic motivators on employee motivation depends on the context where gamification is applied and the user type, each user type being driven by various motivators.

Burke (2014, 18-19) claimed that extrinsic motivators are not sufficient to drive employee motivation and engagement. Case companies emphasized that extrinsic rewards are efficient in the early stages of gamification to onboard the employee on the target behavior the gamified system tries to achieve, while intrinsic motivators are important in sustaining the employee motivation and engagement in the long-term. However, extrinsic motivators are necessary in the long-run when new changes need to be implemented in the gamification system to meet the changes in the business environment, in order to drive the right behavior.

Meaningful goals and tasks along with employee learning translate extrinsically motivating into intrinsically motivating behaviors. The informants describe this process as internalization, when the employee absorbs the goal of the gamification system as one’s own. The personnel will learn the benefits of the target behavior and will continue to engage at their own will even in the absence of external instrumentalities.

The employee motivation differentiates between outcome-focused motivation and means-focused motivation (Touré-Tillery & Fishbach, 2011). Both dimensions of motivation have a focal goal to attain. Three case companies emphasized that they try to enforce means-focused motivation with their gamification solutions because they try to reach precise actions. The precision and accuracy of actions are important in order to bring
business results. Nevertheless, two case firms focus on both types of motivation. Outcome-focused motivation is important to ensure that short-term business results are achieved, while means-focused motivation guarantees sustainable behaviors in the long-term. This finding is significant as organizations might consider only outcome-focused motivation in order to deliver quick business results. Means-focused motivation plays an important role in guiding the employee to adhere to one’s values and right means in pursuing the focal goal.

The internal conflict caused by the coexistence of the two dimensions of motivation that Touré-Tillery and Fishbach (2011) suggested, was not reported by the case companies. However, the informants insisted on the need to divide the focal goal into sub-goals in order to monitor employee motivation. The sub-goals reduces the psychological distance to the target goal and increases the goal accessibility and willingness to use right means in pursuing the target behavior (Kivetz, Urminsky & Zheng, 2006; Touré-Tillery & Fishbach, 2011). Moreover, the motivational pull of future goals constitutes a cognitive-emotional construct of the degree of which the future is integrated into one’s presence (de Bilde, Vansteenkiste & Lens, 2011; Lens et al., 2012) through the sub-goals. One of the informants reported that the cognitive-emotional construct is built through extrinsic rewards, because the employee can relate to the reward when making his way to the final goal.

Sub-goals’ achievement give a sense of competence to the employee in the process of goal pursuit, case companies highlighting it as important in building employee commitment to the focal goal. Providing meaning and a sense of choice leads to fulfilment of the need for autonomy (Deci et al., 1994; Ryan, 1995; Deci, Koestner & Ryan, 1999; Ryan & Deci, 2000b; Baard, Deci & Ryan, 2004; Gagné & Deci, 2005). The informants also stressed on team-spirit that leads to the satisfaction of the relatedness need. As a result of these needs fulfillment, the employee can build self-determination to engage in the target behavior, shifting from the experience
of controlled to a more autonomous motivation (Deci et al., 1994; Gagné & Deci, 2005). Even though self-determination theory distinguishes between controlled and autonomous motivation (Ryan & Deci, 2000b; Hagger & Chatzisarantis, 2011), only one case company addressed controlled motivation. The challenge of controlled motivation is overcome by giving the employee a sense of choice that empowers autonomy, while giving structure in the gamification system for the personnel to follow. These theoretical concepts have not been considered yet in the gamification solution development, given that gamification is still an emergent field and the companies are in the process of learning about the employee motivation and engagement strategies.

In terms of employee engagement, the case companies emphasized the most on the psychological meaningfulness, which along with psychological safety and availability constitute the conditions for personal engagement. Meaningful goals satisfy the need for psychological meaningfulness (Kahn, 1990; 1992). The psychological availability was referred to by two case companies, while only one informant reflected on the employee psychological safety. This empirical results support May, Gilson and Harter's (2004) finding that meaningfulness has the strongest effect on engagement.

Moreover, all the case companies stated that their gamification solutions are targeted at employee’s behavioral engagement. This is a logical result as behavioral engagement constitutes the physical manifestation of cognitive and emotional engagement (Shuck & Herd, 2012; Shuck & Rose, 2013; Shuck & Reio, 2014). Furthermore, companies are interested in results that gamification can deliver, which are most often measured as behavioral outcomes. Nevertheless, two interviewees claimed that they focus on cognitive engagement in addition to behavioral engagement, while other two consider the emotional level. Therefore, while theoretically, all three engagement levels are important, in practice the cognitive and emotional engagement remain behind the scenes, while gamification developers
emphasize on behavioral engagement. However, the cognitive and emotional engagement still need to be addressed in the gamified solution to be able to reach behavioral outcomes.

Behavioral outcomes in the case companies relate to employee behavior change. The case firms translate employee motivation and engagement into actual behavior at the workplace by building the gamification solution on the business objectives. Furthermore, the informants underlined the performance-contingent rewards as an indispensable element in gamification to drive behavior change by rewarding only the behavior that meets the sub-goals.

In the long-term, employee motivation and engagement are perceived by the case firms as cyclical and fluctuating. Employee motivation should be based on intrinsic motivation in the long-run, extrinsic motivators being important when the system tries to encourage new set of behaviors due to changes in the business environment. In terms of lasting engagement, gamification system needs to show the employee meaningfulness of the actions needed to achieve the focal goal. Moreover, providing feedback on performance is necessary in building employee engagement over the short-term and also long-term, enhancing the motivation to continue to engage in the target behavior. This engagement loop should persist at all the levels of the progression loop, which should provide new challenges and sub-goals for the employee to achieve (Werbach & Hunter, 2012, 96-98; Burke, 2014, 116).

To keep the employee progressing in the system, in some contexts, the system needs to be renewed on regular basis to facilitate equal possibilities, since an inferior position in the leaderboard can be demotivating. Moreover, interviewees state that gamification solutions have a lifecycle. Gamified systems need to be deployed under new themes to facilitate employee learning and enhance motivation and engagement.
8.1 Theoretical implications

The gamification developers’ perspective in this study contributes to the development of the gamification literature as this aspect has been omitted earlier, all the previous studies focused on users (Hamari & Koivisto, 2013; Salcu & Acatrinei, 2013; Koivisto & Hamari, 2014). Furthermore, the qualitative approach also adds value to the studies on gamification as the previous studies used quantitative methods (Hamari, Koivisto & Sarsa, 2014). The qualitative method facilitated the researcher to capture developers’ understanding of motivation and engagement strategies, which are directly reflected in the gamification solutions.

The timing of the research is important as gamification is facing the disillusionment phase on the Gartner’s Hype Cycle for Emerging Technologies starting with 2014 (Burke, 2012a; Gartner, 2012; Burke, 2014, 6-8, 151-152). The study of gamification as a means for employee motivation and engagement is necessary to help gamification developers see how to improve their gamified solutions in order to cross the disillusionment phase. Studying this phenomena timely rather than from a retrospective approach contributes to enterprise gamification development rather than what could have been done better looking at companies who reached plateau of productivity or failing cases. The empirical results scratch the surface on the topic of enterprise gamification as a means for work motivation and engagement. The results are to facilitate further research on enterprise gamification. The case companies have emphasized on the need to focus on the benefits and outcomes of gamification in order to underline the benefits of gamification implementation.

Previous studies have not focused on gamification as a means for employee motivation and engagement. The present research studied gamification from the perspective of motivation and engagement theories. The motivation theories considered were self-determination theory (Ryan, 1995; Ryan & Deci, 2000a; Gagné & Deci, 2005) and its sub-theory of cognitive
evaluation (Deci, 1971) as they consider how one’s behavior can become self-determined under the intrinsic and extrinsic motivators, which gamification claims to deliver. Personal engagement theory (Kahn, 1990; 1992) underlined the psychological conditions that lead to employee engagement at the workplace, conditions that a gamified system needs to create in order to facilitate employee engagement. The study tested the fit of these theories with gamification with the case companies. The outcome of this study is the ex-post theoretical model and two propositions.

**Ex-post theoretical model**

The theoretical framework developed prior to data collection, introduced in figure 1, was presented to the case companies. They were asked to give their insights on how to improve it in order to match with the practical context of gamification. The ex-post model is presented in figure 12.

![Figure 12. Ex-post theoretical model](image)

According to Werbach and Hunter (2012, 87-91) and Burke (2014, 96-98), business objectives constitute the first step in the gamification design process. Even though the business objectives were inferred as part of gamification in the ex-ante model, the empirical results emphasize on the need to place business objectives prior gamification as gamification constitutes a means to reflect business objectives in behavioral outcomes. The case companies emphasized that business objectives should be identified first, as their gamification solution is built upon the defined
business target. Thus, the theory and results support that business objectives are important and they were added to the theoretical model.

Gamification is proposed as a means for employee motivation to achieve personal and organizational goals (Burke, 2014, 9) as one’s motivation emerges from extrinsically and intrinsically motivating gameful experiences (Koivisto & Hamari, 2014; Hamari, Koivisto & Sarsa, 2014). This was supported by case companies that gamification is a means for work motivation and engagement if implemented correctly. Moreover, employee motivation leads to personal engagement, since the latter is operationalized as a psychological motivational-state variable (Bakker & Demerouti, 2007; Bakker & Demerouti, 2008; Shuck & Reio, 2011; Shuck & Rose, 2013). This was supported by four of the case companies by stating that employees become engaged when they reach a certain level of motivation. The integration between motivation and engagement was not covered in earlier theories and studies (Macey & Schneider, 2008), but the informants reported that employee engagement is an outcome of motivation, while engagement increases the motivation to engage in the target behavior, as reported in table 9. This leads to the mutual relationship between employee motivation and personal engagement. This relationship translates through behavioral engagement into behavioral outcomes.

The case firms emphasize mostly on behavior change as a behavioral outcome. The interviewees stated that business objectives should be reflected in the behavioral outcomes. To ensure a sustainable behavior change, the system needs to learn about the employee performance and provide this feedback back to the gamification system in order to improve and develop the gamified system. This also allows iterations of the motivation and engagement cycles throughout the levels in the progression loop. Moreover, this finding is a contribution to the theoretical development of gamification as it is not a linear process but rather an iterative one. The empirical findings emphasize that not only iterations in terms of system improvement are necessary, but also renewing the system once the target
behavior is learnt to facilitate employee adoption of the next behavior in the form of a new goal. System renewal was not mentioned in the existing gamification design process (Werbach & Hunter, 2012, 86; Burke, 2014, 90). However, when the life cycle of the gamification solution reaches a stagnation point, the system needs to be renewed to address the changing motivation and goals of the users.

**Propositions**

Based on the relationship between employee motivation and engagement described in the ex-post theoretical model and in the results introduced in table 9, motivation and engagement have a reciprocal effect. This is also supported based on the dimensions of motivation described in sub-chapter 3.4. In the case of outcome-focused motivation, which is in the shape of an S-curve, employee motivation amplifies as the distance to the goal decreases, the marginal value of each new action increasing in the course of goal pursuit (Kivetz, Urminskey & Zheng, 2006; Nunes & Drèze, 2006), as presented in figure 7. When this goal-driven process approaches the focal goal, the loss function is steeper than at the early stages of goal pursuit (Touré-Tillery & Fishbach, 2011).

In the gamification system, employee motivation needs to be reflected in action, which translates into engagement (Ryan & Deci, 2000a; Ryan & Deci, 2000b). Thus, in the case of outcome-focused motivation, the more motivated the employee gets while advancing in the goal pursuit, the more engaged he becomes with the target behavior that will lead to goal fulfillment. This is due to the steep loss function in case one stops performing towards that goal. The possible psychological loss leads to enhanced motivation and engagement when getting closer to the focal goal. This highlights that both motivation and engagement are not momentary but rather evolving states and both are perceived by case firms as cyclical. Therefore, gamification system needs to fuel employee’s motivation and engagement through fulfillment of psychological conditions for motivation and engagement.
Motivation and engagement occurs when the employee is provided with meaningful goals and choices (Touré-Tillery & Fishbach, 2011). The empirical results found meaningfulness as the most important psychological condition, which supports the findings of May, Gilson and Harter (2004). The value of an activity increases as one’s personal goals get fulfilled when engaging in an activity (Locke & Latham, 1990; Higgins et al., 2003). Thus, aligning employee personal goals with organizational goals in the gamified system should bring business results (Burke, 2014, 9) as the employee perceives value from performing the behavior. This was supported by three case firms that perceive greater employee commitment if the personal and organizational goals are coherent.

A similar pattern is in the case of means-focused motivation that takes the form of a U-shaped curve (Touré-Tillery & Fishbach, 2011), as illustrated in figure 7. The more value one can derive from pursuing the right means to achieve the sub-goals and focal goal the higher the engagement as the employee experiences a regulatory fit between one’s own and system’s values (Higgins et al., 2003; Touré-Tillery & Fishbach, 2011). All case companies stated that they focus on means-focused motivation and that the sub-goals help in keeping the employee engaged in the target activity, reducing possible disengagement caused by long distance to the target goal.

When employee motivation becomes autonomous through the internalization process (Ryan & Deci, 2000a; Gagné & Deci, 2005), employee engagement should increase as antecedents of engagement start a motivational process that leads to work engagement (Baker & Demerouti, 2007; Bakker & Demerouti, 2008). The informants state that through internalization the employee learns the benefit of the target behavior leading to engagement. Three informants state that employee motivation leads to engagement in the work performance, and that
engagement can increase employee’s work motivation, respectively. Therefore, the first proposition is:

**Proposition 1:** In the context of gamification, employee motivation and engagement mutually increase in the course of goal pursuit. Motivation builds engagement, while engagement enhances the motivation to continue to engage in the target behavior.

In terms of motivation, the informants reported that internalization is the process of translating extrinsically motivated behaviors into intrinsically motivated ones, as summarized in sub-chapter 7.2.3. The self-determination theory describes internalization as a process of system’s values integration into oneself, which occurs only at the level of extrinsic motivation (Deci et al., 1994; Gagné & Deci, 2005). Extrinsic rewards can vary in their level of autonomy, integrated regulation being an autonomous motivation (Deci, 2000a; Gagné & Deci, 2005).

The question is if gamification can intrinsically motivate the employee. Given the context of the case companies, the employee needs to engage in less intrinsically motivating activities the goals of which can be internalized as one’s own. In order for the motivation to become intrinsic, the employee should experience inherent enjoyment and interest in the behavior the gamified system encourages (Deci, 1971; Deci, Koestner & Ryan, 1999). In the case firms’ gamification solutions the personnel is motivated by the instrumental value for the personal goals. This defines the autonomous level of extrinsic motivation (Ryan, 1995; Ryan & Deci, 2000a; Ryan & Deci, 2000b; Gagné & Deci, 2005). For example, the workers input customer information in the CRM system not because they perceive this action as inherently satisfying and interesting, which characterizes intrinsic motivation, but because it has value for the organization, recognizing the action as meaningful. The instrumental value that interviewees emphasized on were rewards, recognition from peers and managers, and other tangible and intangible instrumentalities.
Moreover, the case firms highlighted that the result of gamification implementation is to make the employee see the value to the organization from personal engagement in the target activity, even if it is not personally and inherently satisfying. Even though all the informants referred to this as intrinsic motivation, by definition of Ryan (1995) and Gagné and Deci (2005) this type of motivation is in the range of extrinsic motivation typology illustrated in figure 6. A gamified system monitors employee’s behaviors. As a result, employee’s motivation cannot become an inherently autonomous motivation to engage in the target behavior. The motivation is still characterized as extrinsic. However, it can reach also an autonomous level when the worker engages independently in the behavior even in the absence of rewards or other instrumentalities. The interviewees mentioned that this level of motivation is reached once the employee learns the target behavior, such as learning how to use email, insert information in the CRM system and other activities.

In the context of less intrinsically motivating activities, gamification can reach integrated regulation, which is characterized by self-motivation and self-determination to engage in the target behavior (Ryan, 1995; Deci & Ryan, 2000; Ryan & Deci, 2000a). However, integrated regulation is the highest level of extrinsic motivation, as displayed in figure 6. Consequently, the second proposition is:

*Proposition 2: In the context of less intrinsically motivating activities, gamification can attain employee’s extrinsic motivation described by integrated regulation, but not intrinsic motivation, because the employee engages in the target behavior for its instrumental value.*

These propositions are developed based on the context of this study. They are specific to the context of enterprise gamification, more specifically to less intrinsically motivating work-related activities. These propositions should be studied by future research.
8.2 Managerial implications

This study has attempted to contribute to the human resource management field by addressing employee motivation and engagement. Managers have an interest in employee engagement solutions due to the engagement gap at the workplace (Attridge, 2009; Bates, 2004; Richman, 2006; Saks, 2006), making this topic one of the top priorities (Wah, 1999; Ketter, 2008; Shuck & Wollard, 2010; Schaufeli, 2012). Therefore, human resource development should take a more strategic approach to this challenge and address it by understanding the drivers of employee motivation and engagement. The proposed solution in this study is enterprise gamification. This sub-chapter presents managers with guidelines when adopting gamification to enhance employee motivation and engagement.

Before investing in a gamification solution, it is essential to define the business objectives (Burke, 2014, 97) and assess if they could be fulfilled with the help of gamification. In addition, the employees’ motivation needs to be studied prior to gamification solution’s design in order to identify the most effective motivators for the target audience. All the case companies emphasized on defining the business objectives as the first step in designing the gamification solution. Moreover, managers stated that there is no gamification solution that would fit all purposes.

The research results show that the user type is usually based on Bartle’s (1996) user typology: socializers, explorers, achievers and killers. Moreover, the informants claimed that the user type can change once the employee learns about the target behavior of the gamification system, making the four categories mutually inclusive rather than exclusive. This findings supports the statements of Bartle (1996), and Zichermann and Cunningham (2011, 23).

The gamification solution’s design is a continuous process as it should consider the changes in employee motivation as he progresses in the
system. The informants state that game-mechanics should address the changes not only at the employee level, but also changes in the business environment in order to drive the right behavior. Moreover, they claim that gamification is more than simple points, badges and leaderboards. It takes more effort in designing a gamified system that will drive employee motivation and engagement in a target behavior.

In terms of motivation, two case firms emphasized on the system’s need to build employee autonomy and give a sense of choice. The employee making decisions on the path to follow in reaching the target goal fulfills the need for autonomy. Moreover, managers should provide their support in order for the employees to perceive their actions as meaningful. The case companies claimed that rewarding performance is also necessary as it provides instant feedback to the employee on his actions, while building a sense of competence due to achievements. Managers should consider the effects of rewards on the employee’s interpretation of these rewards in relation to their self-determination (Deci, Ryan & Koestner, 1999). Defining the behaviors on which the rewards are contingent upon is necessary, as one interviewee suggested that it provides structure for the employee to follow. Performance-contingent rewards should be considered over task-noncontingent or task-contingent rewards, as they consider performance at a specified level of competence (Ryan, Mims & Koestner, 1983; Ryan & Deci, 1996; Deci, Koestner & Ryan, 1999). Performance contingent-rewards will bring better employee performance as they require quality over quantity of performance of the work-related activities.

Two interviewees reported that gamification solution should fulfill the psychological need for relatedness. Competition is important to drive action, but cooperation is also necessary. In addition, the informants stated that employee engagement can be increased through team spirit, claiming that even the less motivated employees feel the social pressure to engage in the target behavior. By creating conditions that will satisfy the psychological needs of autonomy, competence and relatedness, the employee will
become more self-determined to perform the target behavior (Deci et al., 1994). The case companies mentioned that all three psychological needs as necessary to be fulfilled in their gamification solutions. In this way, the employee motivation will become more autonomous, which should be the goal of the system as the feeling of being controlled will diminish personnel’s self-determination. One informant affirmed that the sense of control is diminished by giving the employee a sense of autonomy and choice.

It is essential for managers to understand the effect of extrinsic rewards. Managers reported that rewarding each action with extrinsic motivators can diminish the employee’s motivation to engage, and lead to diminished motivation in the absence of contingencies. If satisfaction is derived from the consequences of an activity rather than the activity itself, then the quality of performance might suffer and relearning these behaviors is very difficult. Therefore, managers suggest that gamification design should consider the possible effects of extrinsic rewards in the long-run, not only in the short-term where extrinsic rewards are most effective. Even in the case of less intrinsically motivating activities, extrinsic rewards might diminish one’s motivation if the activity is not meaningful for the personal goals.

Moreover, reaching toward extrinsic motivation characterized by integrated regulation should be perceived as a good achievement since intrinsic motivation is difficult to build, especially in the case of less intrinsically motivating activities. As a result, internalization of organizational goals builds employee’s autonomous motivation for the employee to continue to engage in the target behavior even in the absence of external contingencies. The case firms stated that gamification can be removed once the employee learns the benefits of the target behavior and engages in the activity independently.

All five case firms stated that driving sustainable behaviors can be addressed in gamification by building means-focused motivation. The informants claimed that the outcome of goal pursuit is important in the short-
term and long-term. However, using the right means in pursuing a focal goal will bring sustainable outcomes. Three interviewees suggest that the focal goal should be divided into sub-goals in order to ensure that the employee will adhere to the right means and build a sense of competence as he progresses in the journey of reaching the target goal.

Managers should consider the psychological conditions of meaningfulness, safety and availability (Kahn, 1990; 1992) the gamified system needs to create in order to engage employees. The case firms stated that the system should provide meaningfulness to the employee by aligning the employee’s goals with the company’s objectives. Meaningfulness was reported by all informants, making this psychological need a priority in the gamified solution. Furthermore, one interviewee emphasized that psychological safety should be built by encouraging the employee to learn the new behaviors promoting also learning from mistakes. Moreover, the employee’s resources that could be invested in the target behavior should be considered. The informants underlined that gamification should not be seen as a way to exploit the workforce, but as a tool to enhance their motivation and engagement. Gamification implementation should be in an ethical way. Despite that behavioral engagement is seen as the ultimate outcome, managers should emphasize also on the cognitive and emotional engagement of the employee at the workplace as behavioral engagement is a manifestation of cognitive and emotional engagement.

The case companies reported that gamification solutions have a life cycle. The informants suggest that managers should perceive when the motivators are not effective in driving behavior change and implement changes in the system. Moreover, three interviewees suggest that depending on the aim of the gamification solution, the system needs to be renewed on regularly basis to provide equal opportunities to engage and achieve rewards. When employees have learnt the target behavior, the system needs to be removed or renewed for the next target behavior.
8.3 Validity, reliability and generalizability of the findings

The quality of research design is tested through construct validity, internal validity, external validity and reliability (Yin, 2009, 40). Construct validity requires the use of multiple sources of evidence and establish a chain of evidence. (Eisenhardt, 1989; Sauders, Lewis & Thornhill, 2009, 146; Yin, 2009, 40-42) Data source triangulation (Stake, 1995, 112) was implemented by collecting the data from multiple sources to establish a chain of evidence (Yin, 2009, 42) and improve the accuracy of judgments by giving a more complete contextual portrait of the research problem (Ghauri & Grønhaug, 2010, 212). The interview data was complemented with secondary data available from webinars, company blogs, white papers and presentations published by the case companies, the full list is presented in Appendix 5. The interview and document review is to increase confidence in the interpretation of the findings (Stake, 1995, 114). The researcher’s chain of reasoning is displayed in the research methodology chapter. Moreover, the findings are accompanied by citations from the interviews conducted with the informants.

Internal validity is built by tying the emergent theory on existing literature and linking results to the literature as findings are based on a limited number of cases (Eisenhardt, 1989). The theoretical part developed prior to data collection is based on the evidence from previous studies on employee motivation and engagement. The results are discussed in relation to the developed theory. The thorough description of the research methodology and research results is to build accuracy of the findings and conclusions. The limitations of the study are presented in the next sub-chapter.

External validity is performed by using a replication logic by replicating the findings in another case. Moreover, external validity in case studies rely on analytic generalizability. (Yin, 2009, 43-44) To enhance validity of the findings, the research adopted a multiple-case study. The research findings are replicated in the five cases. Five cases should generate convincing
results through the replication logic (Eisenhardt, 1989). Data saturation (Sauders, Lewis & Thornhill, 2009, 235) was experienced by the researcher, the additional data collected providing less new insights into the research problem. The analytical generalizability (Yin, 1994, 36) of the findings of the study is keen on the context of enterprise gamification, more specifically gamifying daily work-related routines. Thus, one can state that the research findings can be applicable to other enterprise gamification situations that are tied to less intrinsically motivating work-related activities.

The validity of the model was tested in a different context. In addition to the five enterprise gamification cases, the researcher conducted an interview with Fitocracy, which is an exercise gamification service which features gamified elements and a community of users. Despite the health-related context, the researcher identified similarities and differences with enterprise gamification. The major difference is the user adoption of gamification. Even though users can try the system out of curiosity, keeping them is more challenging than in the case of employees, who adopt gamification as part of their jobs (Burke, 2014, 134). Intrinsic motivation can be reached in the user gamification context as engagement is voluntary and the user experiences an inherent satisfaction from changing behaviors. Despite these differences, both users and employees experience internalization of goals and cognitively evaluate intrinsically motivating activities to an anticipation of external reward. In both contexts motivation and engagement are perceived as cyclical by gamification developers and game-mechanisms are similar, including engagement loop. As only one interview was conducted with an exercise gamification developer, it limits the possibility to claim that research findings of the present research can be generalized to the context of exercise gamification. Thus, additional research should be conducted to support or reject this generalization.

Reliability reduces errors and bias, and demonstrates that the operations of the study will deliver same results when repeated (Yin, 1994, 36-37; 2003a, 34, 37). The present research has introduced the criteria for case selection,
the collection of primary data with the help of interviews and the process of data analysis. Data bias can be reduced by interviewing highly knowledgeable informants (Eisenhardt & Graebner, 2007). The interviewees are knowledgeable of enterprise gamification, having a couple of years of experience on average, as illustrated in table 4. This experience is significant given that gamification is an emerging field. Given that it is a short length of time, the memory bias (Podsakoff et al., 2003) of the interviewees in recalling their experience with gamification is reduced. To gather comparable data (Lee & Lings, 2008, 218), the same set of questions, presented in Appendix 4, were asked from all interviewees.

Analysis pose concerns of the reliability of how raw data is translated into analyzable form, involving transcribing and coding (Lee & Lings, 2008, 237). The interviews were recorded and transcribed entirely to diminish the risk of misinterpretation of the data. The ex-ante list of codes, presented in Appendix 6, was developed based on the theoretical framework and research questions (Miles & Huberman, 1994, 58) prior to data collection to give direction, which should be done even in abductive research (Ghauri & Grønhaug, 2010, 206). Continuous coding identified potential sources of bias by identifying incomplete information (Miles & Huberman, 1994; 61, 65). Therefore, each time a new code emerged, all the interviews were analyzed to detect if the code is present in that interview data. The ex-post list of codes is introduced in Appendix 7. It contains all the final codes that the analysis was based upon.

Coding and the analysis process was conducted in the CAQDAS NVivo, extracts from the process are illustrated in Appendices 8 and 9. The use of CAQDAS helps in establishing a chain of evidence through organizing and coding the data in a systematic way and searching for patterns (Sinkovics & Alfoldi, 2012). NVivo facilitates more reliable findings than in other traditional means of text analysis by making the process of coding and analyzing more transparent and accessible to other researchers, this strengthening the credibility of results. Moreover, NVivo facilitates
comparability of the data through the display of the coded references and results of search queries. (Sinkovics, Penz & Ghauri, 2008) While methodology can be repeated by another researcher, research findings and conclusions are subject to interpretation and knowledge of the researcher. Therefore, the research results and findings were tied to the theory covered in the first chapters. This is to familiarize the reader with the researcher’s reasoning and logic of interpretation.

8.4 Limitations of the study and suggestions for future research

The findings of this research are subject to some limitations in the data collection methods and in the theoretical overview. The limitations will be discussed in this sub-chapter together with suggestions for future research. One of the limitations of the study is its focus on gamification developers. The qualitative approach enabled to tap into the interpretations of the gamification developers on the research problem. However, the number of case studies limit the generalizability of research results. At the moment of the study, there is a limited number of enterprise gamification developers, limiting the possibility for a larger sample. More detailed insights would have been obtained if the customers of the case companies would have participated in the study. Due to the lack of access to these companies, and also their gamification implementation being in some cases hindered as it can cause the employee to feel controlled and his behavior manipulated, this approach was not possible. Once companies learn about the benefits of gamification, future research should focus also on the customers of gamification developers in order to study the effectiveness and the outcomes of enterprise gamification implementation.

The study undertakes a cross-sectional time horizon, lacking in the longitudinal perspective (Saunders, Lewis & Thornhill, 2009, 155). A cross-sectional research was conducted due to the emerging field of enterprise gamification and the few years of case companies’ existence since their foundation. The case firms were established in 2012, making the cross-
sectional approach appropriate for the present study. This fact limits the information that would be necessary to conduct a longitudinal study. However, a longitudinal study is to provide insights into the development of employee motivation and engagement with the help of gamification over a period of time, learning from the previous results. Once enterprise gamification will be largely adopted by companies and organizations, the studies should adopt a longitudinal approach in studying the effectiveness of gamification in delivering behavioral outcomes.

Studying motivation and engagement from the employee perspective would have given a better understanding of what motivators and psychological conditions are most effective in engaging employees in a target behavior. A suggestion for future research is to conduct both qualitative followed by quantitative research with a large sample of employees on the conditions for work motivation and engagement once gamification will be adopted by a larger number of organizations. The qualitative research will enable to tap into the research problem, while quantitative study will validate the findings with a larger sample.

Furthermore, studying the employee from the theory of planned behavior (Ajzen, 1991) perspective would enable to identify the employee behavioral intention in predicting behavioral achievement and explain the employee behavior in specific contexts. In addition, the employee sample would facilitate to tap into the degree to which employees anticipate and integrate the future into the psychological presence through the future time perspective (de Bilde, Vansteenkiste & Lens, 2011; Lens et al., 2012). This would enable a better planning of the reward schedule in order to boost the motivation to engage and reduce the psychological distance to the focal goal. These insights would provide gamification developers on how to improve their systems and build employee-centered solutions.

A subject that was slightly discussed are the reward types and their timing. This is due to the reward schedule being specific to the behavior the
gamification solution needs to enforce and the timing depending on the employee’s future time perspective (de Bilde, Vansteenkiste & Lens, 2011; Lens et al., 2012), the value of rewards diminishing as a function of the temporal delay (Rachlin, 1995). This aspect should be studied further as it is relevant not only in designing rewards systems in gamification, but also in other human resource development contexts.

Moreover, the researcher attempted to integrate employee motivation and engagement that was omitted by previous research (Macey and Schneider, 2008). However, the attempt is limited as it is based on the perception of gamification developers and the implications from the dimensions of motivation (Touré-Tillery & Fishbach, 2011), and relates only to the context of enterprise gamification. This is reflected in proposition one presented in sub-chapter 8.1, which suggests that employee motivation and engagement mutually increase. Additional research is required to study it further from both gamification developer’s perspective, when their solutions will reach larger audiences, and also employees’ angle as they are the target audience for the enterprise gamification solutions.

Based on the empirical results, the two dimensions of motivation are perceived as necessary in the gamified system by the informants. Nevertheless, Touré-Tillery and Fishbach (2011) claim that the coexistence of outcome-focused and means-focused motivation can cause an internal conflict due to enhancing need to reach a focal goal and increased desire to use the right means. The study of this problem was beyond the scope of this research. However, understanding this problem is necessary in designing programs for motivation enhancement. Thus, this conflict should be addressed in a separate study.

The effects of extrinsic motivators on the employee’s intrinsic motivation, which defines the cognitive evaluation theory (Deci, 1971) rely entirely on the perception of enterprise gamification developers. This delivers insights of how these enterprises perceive the employee motivation and the role of
rewards. This approach constitutes a limitation of this study. However, studying the effects of extrinsic rewards on intrinsic motivation would be best in an employee sample, as the cognitive evaluation process takes place at the employee level. Moreover, the theoretical overview relies on the psychology studies and detailed theoretical concepts, one of them being the typology of extrinsic motivation. Even though the typology has theoretical significance, the implication for practitioners seemed to matter less. The informants distinguish only between extrinsic and intrinsic rewards. The researcher suggests to study whether in the context of less intrinsically motivating activities, intrinsic motivation can be reached by studying the proposition two introduced in the 8.1 sub-chapter.

The applicability of the theoretical model developed in this study is limited to enterprise gamification context. The validity of the model was tested in the context of users. However, its applicability is limited to only one case outside the enterprise gamification context. Future research should study the fit of this model in the context of gamification solutions for marketing strategies, health related activities or other contexts targeted at users’ behavior change.
REFERENCES


Gartner (2012) Gartner Says by 2014, 80 Percent of Current Gamified Applications Will Fail to Meet Business Objectives Primarily Due to Poor


APPENDICES

Appendix 1. Gartner Hype Cycle for Emerging Technology (2013)

(Gartner, 2013)
Appendix 2. Similarities between the Werbach and Hunter’s (2012) and Burke’s (2014) design process

(Werbach & Hunter (2012) gamification design)  
(Define business objectives)  
(Delineate target behaviors)  
(Describe your players)  
(Devise activity cycles)  
(_deploy appropriate tools)  
(Fun)  

(Burke (2014) User experience design)  
(Business outcomes and success metrics)  
(Target audience)  
(Player goals)  
(Engagement models)  
(Play space and journey)  
(Game economy)  
(Play, Test and Iterate)  

(adapted from Werbach & Hunter, 2012; Burke, 2014)

The similar steps are linked with the interrupted arrow.)
Appendix 3. Flow Channel

(adapted from Schell, 2008, 118-123; Zichermann & Cunningham, 2011, 18; Werbach, 2014e)
Appendix 4. Interview Outline

Introduction

- How do you define gamification? What gamification consists of?
- What, in your opinion, are the outcomes of gamification?

Gamification as a means for employee motivation

- How do you perceive gamification in building and enhancing employee motivation?
- How do you motivate users to start using your gamification system?
- What elements of gamification you perceive as the most essential in building employee motivation?

Types of motivators

- How do you perceive the role of tangible and intangible rewards in building employee motivation?
- Motivation theories distinguish between intrinsic and extrinsic motivators. How do you consider the relationship between these two types of motivators in your gamified system?
- What role do intrinsic and extrinsic rewards play in the long-run?
- What are the advantages and pitfalls of extrinsic motivators?
- In your view, which motivators are most effective and why?

Gamification design

- In order to reach a target behavior, a gamification system needs to deploy appropriate tools, which constitute the rules of the gamification system. How do you perceive the role of these rules in shaping the motivation of the employees using your gamification solution?

Internalization

- How do you reach the point when the goals of the gamification system are accepted by the employee as his/her own goals?
The course of motivation

- Do you see motivation to stay constant over the course of an action or is it cyclical? Why?
- How do you address the linear/cyclical aspect of motivation in designing your gamified system?
- One way of looking at motivation is as motivation to attain a focal goal. On the other hand, there is also motivation to do “things right” in the process of reaching that goal. Which of these two types of motivation you aim at reaching with your gamified system? Why?
- What gamification techniques do you implement to avoid the user cutting corners to shorten the way to receiving rewards? How do you ensure that users of your gamified system use the right means in pursuing the goals?

Employee motivation in the long-term

- How do you maintain a consistent level of employee motivation in the long-term?

Employee motivation and engagement

- How do you perceive the relationship between motivation and engagement?

Gamification as a means for employee engagement

- What are the conditions a gamification system should create to facilitate employee engagement?
- What kind of engagement are you aiming at with your gamified system?

Gamification as flow

- How can a gamification system built a state of flow, when the employee is totally absorbed with the goals and tasks of the system?
Engagement challenges

- What is the role of employee empowerment, job satisfaction and work motivation in your gamification system?
- How do you overcome the challenge that some employees are more engaged than others?
- How do you ensure that the amotivated users will not kill the motivation of motivated users?

Engagement translated into behavior

- How do you translate the engagement from the gamification system, and the excitement around it, into the actual desired behavior at the workplace?
- In which way do you maintain and enhance engagement behind the basic game mechanisms (PBL)? How do you shift from motivation to gain rewards to employees’ motivation to engage in activities for their own sake? How do you turn it into an engagement that comes from inner self demonstrating proactive behavior and personal initiative?

The course of engagement

- Do you perceive the level of employee engagement as constant or fluctuating over the time? Why?
- How do you ensure that the gamification system will continue to engage employees over the long-term?

Motivation and engagement reflected in employee behavior

- How is motivation and engagement, built with the help of gamification, reflected in the employee behavior?
- What is the connection between action/behavior and results?

The future of gamification

- How do you see gamification in the long-term? How do you plan to go through the disillusionment phase of the Gartner's Technology Adoption Curve to reach the mainstream with your gamified solution?
- Where does gamification go?
- Will the term survive or disappear?
## Appendix 5. Primary and secondary data sources

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### Appendix 6. Ex-ante list of codes

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### Employee Engagement

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### Long-term effect

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### Future of gamification

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### Theoretical framework

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Appendix 8. Coding in NVivo (text data)

The list of codes on the left, the transcript in the middle and coding stripes for the text fragment on the right. (continued)
Appendix 8 continued. Coding in NVivo

(work and it is not all in an extrinsic way rewarded, so it doesn't mean you are going to receive salary only for that, because again, that motivation is not as engaging as the intrinsic motivation that is really what a game and gamified environments bring to the picture. And, introduce for users, people really get internally engaged. They get excited internally, they get it within themselves, they feel that they need to do this challenge, they would like to win this new challenge and contribute to the overall performance, success that any organization is desiring."

T: Thank you. It is challenging to maintain users to continue to engage with the gamification system, but the biggest challenge is how to motivate them to start using the system. So how do you motivate employees to start using your gamification system?

M: That is actually very good question. The beginning are always hard. I have been working with clients that are implementing, for example, Microsoft Dynamics CRM and implementing a business solution into a business. Into the organization is not a trivial task. There is a long learning curve, there is a long period in which users need to adjust to completely new environment. They will be working in and fulfilling the obligation that is being asked them to complete in order to really do their job right. So organizations set some expectations by implementing a business solution. But because it's business
Appendix 8 continued. Coding in NVivo

Gamification as a means for employee motivation, engagement and behavior change: a perspective of gamification developers

In the current context, we observed that employees who have been engaged in gamification activities tend to perform better. This finding is supported by the results of our study, which showed a significant positive correlation between gamification and employee performance. The development of a gamification solution should be like a coach in the basketball game. So when I play defense very good and offense very bad, then I will receive the feedback from my coach about my play. It's not how you are playing so so, because I am good and bad, so I am average, no, you are good at one thing and bad at other things. So the feedback is very important. And then, when I have a feedback as employee I have call to action and a feedback — it's a good cycle of improvement. So, the outcome would be better performance. I perform the right things and perform in the good order. So, ok. I can now count few products of those outcomes. It can be better performance in sales, better performance in customer service and you know you name it. It's almost any process that you are doing. Report to the CRM system the right information, learn about the new product, share your ideas with others, create innovation, save money and participate in company events, try to help the company in the referral employees program, you name it. But the basic element is call to action. We
Appendix 8 continued. Coding in NVivo (figures)

Coding figures from the secondary data – from Case E’s blog post (continued)
Appendix 8 continued. Coding in NVivo (List of quotes of a code)

If you think about a gamification system and you think about employee engagement and need to increase that, then you need to have such rules and such kind of rewards and feedback system is use that will actually affect people's motivators. So, it's to do things.

Reference 1 - 0.43% Coverage

basically rules for action, for feedback and rewards and that's the set up.

Reference 2 - 0.12% Coverage

I think that feedback is very essential here. So, people get engaged and they get more motivated when they are told that "you are doing great" and they can actually see the progress of their work. I think that kind of feeds itself.
Appendix 9. Data retrieval with Queries in NVivo (Query Wizard)

Data retrieval from selected nodes (continued)
Appendix 9 continued. Data retrieval with Queries in NVivo (Matrix Coding Query)

The matrix shows how many references were made by each case under each node (continued)
Appendix 9 continued. Data retrieval with Queries in NVivo (Word Frequency Query)

It shows the frequency of the words, their coverage in the data and similar words.
### Appendix 10. Gamification defined by case companies

<table>
<thead>
<tr>
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<td>“The usage of game mechanics in non-game context”</td>
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<tr>
<td>Case B</td>
<td>“Utilizing these elements familiar from games in an environment that is not by nature a game, like work environment”</td>
</tr>
<tr>
<td>Case C</td>
<td>“Taking an element of games - the game mechanics, maybe some of the design, bringing that into non-game experience”</td>
</tr>
<tr>
<td>Case D</td>
<td>“It is a vehicle that helps people connect with business solutions, business environments and provides them with some motivating and fun activities that drives their business interest and drives their performance”</td>
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<tr>
<td>Case E</td>
<td>“The use of game dynamics and mechanics in non-game environment”</td>
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Appendix 11. Feedback and rewards employed in the case companies

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<th>Case C</th>
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<th>Case E</th>
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<td>instant and social feedback in the form depending on user type</td>
<td>feedback in various forms: progress bar, badges, points</td>
<td>feedback in the form of points or badges</td>
<td>instant feedback to inform about accomplishments</td>
<td>multidimensional feedback</td>
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<td>• involving employees for short-term with tangible rewards and shift to intangible rewards once benefits are seen</td>
<td>• tangible rewards for simple tasks in the short-term</td>
<td>mostly intangible rewards because tangible rewards imply taxations</td>
<td>balance between intangible and tangible rewards</td>
<td>60 to 90 percent of intangible rewards and 30 to 10 percent tangible rewards</td>
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<td>Tangibility of intangible rewards</td>
<td>point stock concept that creates new currency and can be deemed against physical products</td>
<td>if points are tied to physical remuneration</td>
<td>system of credits, that can be redeemed against</td>
<td>convert intangible rewards into tangible rewards</td>
<td>opposite approach: tangible rewards that bring intangible value</td>
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