Gordon Institute of Business Science
University of Pretoria

The impact of gamification on employee engagement in advertising agencies in South Africa

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A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Business Administration.

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Abstract

Objective

This research project aimed to research the impact of gamification on employee engagement, using the context of advertising agencies in South Africa. Employee engagement is an increasingly important factor in workplace performance, and the use of gamification as a possible antecedent to increased employee engagement is a viable research topic.

Methodology

Quantitative research via Internet questionnaires was done to determine employee engagement levels, and 211 responses were collected from employees of advertising agencies in South Africa. Statistical tests were done on the collected data to observe if employees from companies that use gamification had significantly higher levels of employee engagement than employees from companies that did not use gamification.

Outcome

Employees from companies that use gamification were found to have significantly higher overall engagement levels, intellectual and affective engagement levels, and social engagement levels, as well as increased organisational citizenship behaviour levels and reduced intent to turnover.

As employee engagement has highly positive benefits for the organisation, gamification is an important tool for businesses to use to increase employee engagement and thus improve their performance.

Academically, the research has shown that an antecedent of employee engagement can be applied to the ISA Engagement Scale. Further academic research can now be done applying other antecedents to the ISA Engagement Scale.

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Keywords

Gamification, employee engagement, ISA Engagement Scale, advertising agencies, South Africa, organisational citizenship behaviour, intent to turnover, intellectual engagement, affective engagement, social engagement

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Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

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13 January 2016

Turnitin Submission Report

The Turnitin Submission Report is included in Appendix III.

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1. Research problem

1.1 Research title

The impact of gamification on employee engagement in advertising agencies in South Africa.

1.2 Introduction

Employee engagement is important to managers and organisations as it has been shown to have a positive correlation with organisational performance (Harter & Agrawal, 2009). Higher workplace engagement has resulted in higher earnings per share among publicly traded companies (Jaupi & Llaci, 2015). Additionally, higher employee engagement has a negative correlation with intent to turnover, and engaged employees are 87% less likely to leave a company (Shuck, 2010). Attaining high employee engagement ratings in organisations is therefore a favourable goal for managers to strive for. A possible method of achieving this goal is the application of gamification methods in the organisation. Blohm & Leimeister (2013) discuss a new approach in incentive mechanisms called gamification: an approach designed to "enrich products, services, and information systems with game-design elements in order to positively influence motivation, productivity, and behaviour of users". The purpose of this research project is to address the academic gap in determining the impact of gamification on employee engagement, using the context of advertising agencies in South Africa.

Employee engagement is defined as "a distinct and unique construct consisting of cognitive, emotional, and behavioural components … associated with individual role performance" (Shuck, 2010). Jaupi & Llaci (2015) echo this sentiment by defining employee engagement as "the individual's involvement and satisfaction with as well as enthusiasm for work." It is a condition that is desirable for the employee and organisation, and produces positive consequences including involvement, commitment, passion, enthusiasm, focused effort and energy (Jaupi & Llaci, 2015).

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In this research project, gamification will be researched as a possible antecedent to employee engagement. Frang & Mellstrand (2012) define gamification as “the use of game thinking and mechanics in non-game contexts” and “the concept of applying game-design thinking to non-game applications to make them more fun and engaging.” Simplified, gamification is a motivational tool that brings the addictive mechanics of games into other social environments.

Gamification has been successfully implemented in various situations (Deterding, 2012), from less complex examples such as helping users correctly fill in in forms with as much information as possible, to much larger applications such as Weight Watchers programs and extensive loyalty programs. Discovery is a an example of a South African company implementing gamification tools, with its Vitality Health and Vitalitydrive programs rewarding users for improving their health and driving behaviours. International advertising agencies Code and PHD created a system called Source for their media planners. Source is built as a multiplayer game, where you earn virtual currency called ‘pings’ by essentially doing your job right (McNeany, 2013). Source is run in real-time, with all users able to see how they are performing based on a global leaderboard (Powell, 2012). The system is proven to work, with 1 500 media planners in 75 countries using Source every day (McNeany, 2013).

Kim (2015) and Osheim (2013) state that gamification allows users to get more out of their real lives compared to the games they play as a form of escapism. Gamification brings the fun of playing games into the real world, and is exciting because it promises to make the hard stuff in life fun (Smith, 2015).

The aim of this research project is to address the academic gap in determining the impact of gamification on employee engagement in the context of advertising agencies in South Africa. This context has been chosen because advertising agencies are demographically younger, creative, technologically literate, adaptable to change, and open to new ideas and techniques. Management and leadership teams in advertising agencies are very focussed on culture and organisational citizenship behaviour, and are thus more likely to be open to using new techniques such as gamification.

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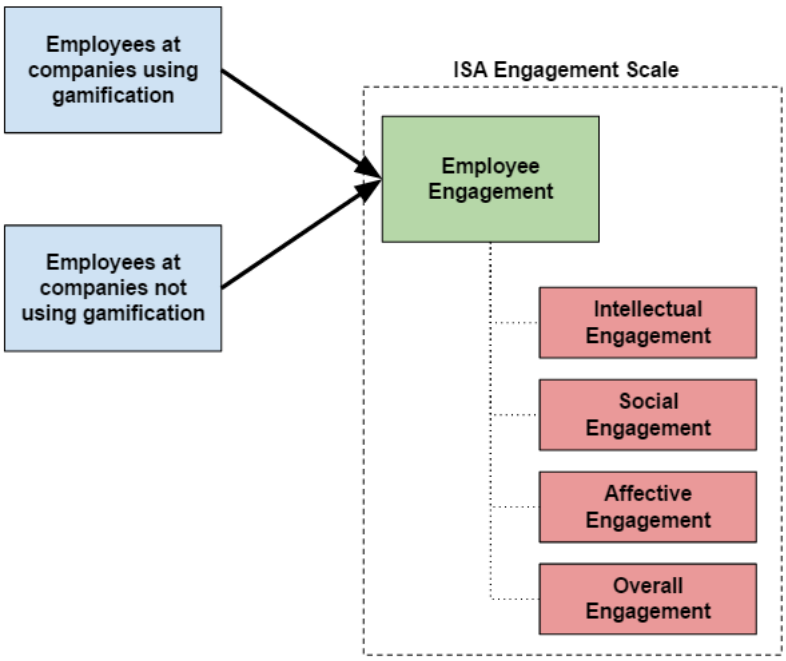
1.3 Research problem and objectives

The topic of the research project is 'The impact of gamification on employee engagement in advertising agencies in South Africa'. From this topic, the following relationship will be researched:

Figure 1: Research problem



H1 – Employees at companies that use gamification are significantly more engaged than employees at companies that do not use gamification.

The ISA Engagement Scale show in the above diagram is a culturally reliable and relevant scale used to test employee engagement levels. The ISA Engagement Scale was developed by Soane, Truss, Alfes, Shantz, Gatenby & Rees (2012). The ISA Engagement Scale measures three areas of engagement, namely:

- Intellectual - the extent to which people are intellectually absorbed in their work, or think hard about the work they are doing (Dodds, 2013);
- Social - the degree to which individuals feel socially connected in their work environment, and share the values of their colleagues (Dodds, 2013);
- Affective - the extent to which individuals experience positive and energizing feelings about their work (Dodds, 2013).

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Overall engagement is then measured by calculating the average score of intellectual, social, and affective engagement.

The objective of this research is to show the link between gamification and employee engagement. This will be done by exploring the consequences of gamification and antecedents of employee engagement. Finally, consequences of employee engagement will be explored to see how they will affect the organisation as a whole. Employee engagement levels will be compared between companies that use gamification and companies that do not use gamification, to determine if gamification has a significant impact on employee engagement.

1.4 Research motivation

The motivation behind this research is to determine if gamification has an impact on employee engagement.

This issue was selected as gamification has proved to be useful in other contexts outside the workplace, and it is relevant to research if this method will be successful in the business context. If gamification is found to be relevant, it could be an important method for improving employee engagement, which is advantageous for the organisation as a whole.

Although gamification is a fairly recent concept, it has enormous potential, and is expected to plateau before 2021 (Genser, 2012). In term of this potential, the gamification market is expected to grow to reach $2.8 billion by 2016, which is an indicator of worldwide interest in the methods of gamification (Frang & Mellstrand, 2012). Frang & Mellstrand (2012) predicted that more than 70% of the world's 2000 largest organisations would have at least one gamified platform by 2014. Gamification is relevant in the business environment as companies need to keep pace with new ideas, methods of working, and technology. It has been recognised in academic literature and in the business world that gamification is an increasingly popular method of improving user engagement and motivation in work-like tasks (Cechanowicz, Gutwin, Brownell & Goodfellow, 2013). Businesses need to find new ways to engage their employees and motivate them to perform at their optimum, and gamification brings this fresh outlook to the field. Existing loyalty system businesses such as the South African Achievement Awards Group are also recognising the importance of

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gamification in improving their current loyalty systems, and are using gamification company Gamma Fly to gamify their systems (Gevisser, 2015).

Engagement is important to a business as employee engagement has an impact on business results. Jaupi & Llaci (2015) state “employee satisfaction and engagement are related to meaningful business outcomes at a magnitude that is important to many organisations”. Additionally, the Gallup organisation (using the Gallup Q12 scale) found that higher employee engagement showed a correlation with higher earnings per share among publicly traded business (Jaupi & Llaci, 2015). Employee engagement is also critical to an employee’s quality of life. Satisfaction in the workplace has been associated with overall life satisfaction (Judge & Watanabe, 1993). According to Shuck (2010), the effects of improved employee engagement are positive for the organisation, and include increased productivity, tenure, and organisational citizenship behaviour.

Organisational citizenship behaviour is defined as “work-related behaviours that are discretionary, not related to the formal organisational reward system, and, in aggregate, promote the effective functioning of the organisation” (Mohammad, Habib & Alias, 2011). Another view of organisational citizenship behaviour by Fox, Spector, Goh, Bruursema & Kessler (2011) defines organisational citizenship behaviour as “helpful behaviours that support the social fabric of the organization that are outside of the core job tasks”. Organisational citizenship behaviour can contribute to the success and even survival of an organisation by improving organisational effectiveness (Podsakoff & MacKenzie, 2000). Thus, increasing employee engagement and organisation citizenship behaviour is something managers and organisations should aspire to.

From an academic viewpoint, research into gamification is growing rapidly and is becoming a popular research topic. There is a gap in the research, however, as most research has been on gamification in general, and not into how gamification can affect engagement in the workplace, and the associated benefits thereof (Hamari, Koivisto & Sarsa, 2014).

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1.5 Layout of research project

The research project comprises seven chapters:

- Chapter one introduces the research project and research problem.
- A theory and literature review is done in chapter two, and examines the concepts of gamification and employee engagement. Consequences of gamification, and consequences and antecedents of employee engagement are also explored.
- Chapter three deals with the research questions related to the research topic.
- Chapter four discusses the research methodology used in this research project, including reasoning, methods, variables, population, unit of analysis, sample, data collection, data validity and reliability and data analysis. Potential research limitations will also be discussed.
- Chapter five presents the results from the research conducted.
- Chapter six goes into detail on the discussion of the results from the research, and conclusions on how these results impact the research questions.
- Chapter seven concludes the research project.

1.6 Academic and business questions

The purpose of this research project is two-fold: to benefit the academic community and to benefit the business community.

1.6.1 Academic question

How does the use of gamification in the workplace impact employee engagement?
Additionally, the research will show how an antecedent can be applied to the ISA Engagement Scale which is then used to rate employee engagement levels.

1.6.2 Business question

Does the use of gamification in the workplace in advertising agencies lead to increased employee engagement, and how does this information benefit the advertising agency?

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1.6.3 Benefits to the academic and business communities

This research project will benefit academia by exploring the relationship between gamification and employee engagement, which has not been researched as of yet. Wollard & Shuck (2011) suggest that "the antecedents to employee engagement should be in place before organizations can reap the benefits of an engaged workforce". This research project will explore if gamification is one of these possible antecedents. More worryingly for managers, employee engagement has been reported to be on the decline (Saks, 2006), and new methods need to be found to deal with this decline. No research on gamification was found in South Africa, and this research project will also add to the local body of knowledge on the subject. Applying gamification as an antecedent to the ISA Engagement Scale will also open this scale up to being used to test other possible antecedents to employee engagement by using this scale.

From a business point of view, organisations will benefit from this research project as they can use the information gained to decide if gamification should be used to improve employee engagement, and if it will be beneficial to their organisation.

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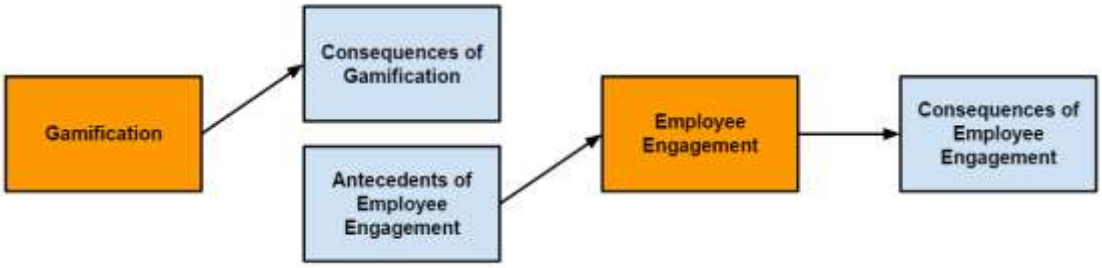
2. Theory and literature review

2.1 Introduction

The literature review will be focussed on the concepts of gamification and employee engagement. To show the link between gamification and employee engagement, consequences of gamification and antecedents of employee engagement will be explored. Finally, consequences of employee engagement will be explored to see how they will affect the organisation.

Figure 2: The relationships between gamification and employee engagement



Employee engagement as a consequence of gamification has not been researched academically. This research project will focus on this academic gap.

2.2 Gamification

2.2.1 What is gamification and what does it entail?

Gamification is defined by Frang & Mellstrand (2012) as “the use of game thinking and mechanics in non-game contexts”. Another critical component of gamification is improving mundane tasks by adding an element of fun and internal motivation to the work (Osheim, 2013). Gamification is viewed as an upcoming method for improved engagement, with over 50% of organisations expected to gamify their innovation processes by 2015 (Hamari, Koivisto & Sarsa, 2014). Gamification is at the core of many businesses’ entire product offering (such as Codeacademy), while other companies have created services to help organisations gamify their existing services (such as Badgeville) (Deterding, 2012; Hamari, Koivisto & Sarsa, 2014). Designing these systems is not an easy task, and designers need to be cognizant that the system must be simple and easy to learn, but still offer challenging and rewarding tasks to keep the user engaged (Deterding, 2012; Genser, 2012). Simply put: gamified systems

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should be easy to learn, but tough to master (Genser, 2012; Hagglund, 2012). Csikszentmihalyi explains gamification as “a way in routine activities can be transformed into personally meaningful games that provide optimal experiences” (Genser, 2012; Hagglund, 2012). Interestingly, gamification is found to work better in a younger age group, and among users who have had experience playing games (Bittner & Shipper, 2014). In the case of workplaces, gamification can be used to improve performance via internal motivation (Osheim, 2013). Correctly introducing gamification to the workplace would require applying all the mentioned elements to the system.

2.2.2 Components of gamification

A study of the literature has revealed several components to be relevant to the success of gamification. These include points (used to track the user’s progress); leader boards (to add competition); levels and goals (to ensure that the user is motivated to keep progressing and doing more tasks); profiles and avatars (virtual representations of a user’s physical self that allow a sense of separation from reality for the user); achievements (a form of goal achievement and surprise that typically come in the form of ‘badges’ which result in a sense of pride and accomplishment for the user); rewards (which add incentives to the system and lead to increased usage and engagement); and finally, the element of fun (which is core to the gamification system) (Deterding, 2012; Genser, 2012; Muntean, 2011; Hamari, Koivisto & Sarsa, 2014).

The gamification system can then be enhanced by adding components such as a social layer (to allows users to interact with other users on the platform); a story/theme (to imbue the platform with a sense of being in a game); gameplay balance (a mix of easy and hard tasks to keep engagement levels high); virtual currency and resource gathering (to help motivate the user to continue progressing, as well as representing how much work they have accomplished); and feedback (to assist in keeping the user motivated) (Deterding, 2012; Genser, 2012; Muntean, 2011; Morris, Croker, Zimmerman, Gill & Romig, 2013). The state of flow as researched by Csikszentmihalyi is very important to games and gamification systems, and is described as “an optimal state of being enabling intense focus and concentration” (Genser, 2012; Hagglund, 2012). This state of flow allows users to achieve high and valuable productivity.

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Gamification has also been assisted by recently released technology, which plays an important role in its introduction and use. Metrics are now available to automatically monitor engagement, and include page views per visitor; time spent on site; total time per user; frequency of visit; participation; and conversions (Muntean, 2011). These metrics can then be combined with the above components to track the user's progress in the system.

Gamification is not a tool that can be used in isolation. As Werbach & Hunter (2015) state, "gamification involves understanding psychology, understanding design principles, and understanding how we can leverage data". This thinking was echoed by John Gevisser, CEO of South African gamification company Gamma Fly. Gevisser (2015) stated that gamification is irrelevant if you are not tracking user actions and acting on this data in real-time. To Gevisser, gamification is about changing user behaviour through data, combining social and loyalty systems with gamification and data to influence engagement. Rajat Paharia, founder of Bunchball, an American gamification company, combines motivation, big data, and gamification, to create what he has termed 'Loyalty 3.0'. The concept of Loyalty 3.0 combines these factors to increase engagement (Paharia, 2013). Daniel Pink has coined a similar-named concept called 'Motivation 3.0'. Motivation 3.0 talks about how employees are driven by three key dimensions: mastery, autonomy and purpose. Gamification is way to make employees feel they are working toward a sense of mastery, to ensure they feel they have some autonomy over their work, and that there is a purpose to the work they do (Pink, 2011).

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2.2.3 Examples of the use of gamification and their impact on engagement

Gamification has been used in many scenarios, including commerce; education/learning; health/exercise; intra-organisational systems; sharing; sustainable consumption; work; innovation/ideation; and data gathering (Hamari, Koivisto & Sarsa, 2014). Some more in-depth examples of these scenarios from the relevant literature are discussed in the following sections:

2.2.3.1 Technology platforms

Technology platforms are ideal for gamification systems. Stack Overflow is one of the largest programming forums on the Internet. As users interact on the forum, they gain points and badges. The use of these points are two-fold: first, allowing users additional privileges as they gain reputation, and second, getting feedback from a user with a high reputation shows the user that the feedback is more worthwhile (Kim, 2015). Nike+ and the iPod are another example. Over 1.8 million runners use Nike+ to capture data on their exercise. When runners reach a certain goal, they are rewarded through their iPod, with celebrities congratulating them on achieving their goal. They can then use the software after their run to see how they compare to previous runs or other competitors, track statistics, set challenges, and more (Genser, 2012; Kim, 2015). Similar to Nike+, Endomondo is an exercising app that tracks every move the user makes. The app then pits the user's performance against previous workouts (Iosifidis, 2011).

From an education standpoint, Khan Academy has implemented gamification on its system. Khan Academy is an online university that uses gamification in the form of badges, flow, points, and more to encourage learning (Deterding, 2012). Deloitte has also implemented gamification in the Deloitte Leadership Academy, which is a gamified online training program. When the program was gamified, 37% more users returned to the site each week. These users spent more time on the program, and the number of programs completed also increased (Kim, 2015).

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HabitRPG is an excellent example of an app you can customise to gamify your life. At its core, HabitRPG is a to-do list app, with the addition of a gamification layer which rewards you with points and level-ups when you complete your tasks (Henry, 2014). Gamification also works well with children. Popular app ChoreWars turns completing household chores into a 'Dungeons & Dragons' style quest, with the parents playing the role of 'game master' (Henry, 2014).

Uber has also used gamification to help its drivers learn to navigate their cities. Drivers can use their Uber app to earn high scores for identifying the safest and most efficient routes to their destinations (Parent, 2015).

The last technology example is Foursquare, a very popular app allowing users to check in to locations on a map. The more users check in, the more points and rewards they obtain (Genser, 2012; Frang & Mellstrand, 2012; Henry, 2014; Iosifidis, 2011).

2.2.3.2 Advertising companies

Advertising companies have also started using gamification in their campaigns. IDEO created a Smartgauge for Ford Hybrids. This Smartguage changed based on the driving of the user. The more efficiently a user drives, the more leaves appear on the dashboard display, to show their driving efficiency. This creates a visual reward for the driver's efforts, thus using a gamification method to show a reward (Iosifidis, 2011). Another example is advertising agency DDB, who created the Volkswagen's Piano Staircase campaign. The Piano Staircase is a musical staircase that encourages people to take the stairs instead of the lift, promoting health by gamifying exercise. As a result of this campaign 66% more people took the stairs (Iosifidis, 2011; Kim, 2015). This campaign encouraged healthier employees for Volkswagen.

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2.2.3.3 Non-technological gamification examples

Gamification doesn't have to be about technology. An employee of South African gamification company Gamma Fly, conducted an experiment on engagement during presentations titled 'Presentation Bingo'. The purpose of Presentation Bingo was to increase the engagement of an audience with a presentation that might be considered dry or tedious. This was accomplished by introducing the elements of the game bingo into the presentation. The audience was given cards, and prompted to keep an eye out for certain words or images, marking them off on their own card when the word or image was used, with the end result being an audience member winning the game of bingo. This kept their engagement levels high throughout the presentation (Gevisser, 2015).

2.2.3.4 Gamification in traditional systems

Gamification has also been implemented in more traditional systems. S&H, an American company, launched S&H's Green Stamps in the 1960s. These green stamps are an early example of gamification: they were earned when buying certain goods from specific S&H stores. This virtual currency could then be redeemed for material rewards. A key insight is that the success of this campaign was not driven by the extrinsic reward of the material items, but rather by an intrinsic achievement of receiving a reward that was hard to value in terms of real currency, as well as being part of a social movement (Frang & Mellstrand, 2012).

A well-known example of gamification can be found in frequent flyer programs worldwide. Most major airlines run frequent flyer programs. Over 120 million people worldwide are earning points, levelling up, and spending rewards (Genser, 2012).

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2.2.4 Gamification as a tool in the workplace

Gamification can be used to track and reward progress. Managers and organisations can use it as a tool to improve employee engagement by implementing a tracking and rewarding system to track various events.

Points can be tracked and earned by attending and/or hosting events such as education talks; working overtime; winning awards or new business; completing tasks ahead of time; and filling in timesheets.

Gamification can also be used in job redesign by redesigning mundane jobs and tasks to make them more gamelike, to increase employee engagement (O'Connell, 2015).

Gamification can also be used in the human resources department. Hackertrail uses gamification for recruitment by pitting two developers against each other in online coding challenges, with the main prize being a job interview (O'Connell, 2015). NATIVE VML uses gamification in induction. Its induction programme 'Becoming Native' requires new staff members to perform certain tasks to gain points and badges. These tasks help them to become inducted into the company culture, as well as meet their new colleagues (Rivers, 2015).

Gamification is also useful in training. Deloitte uses gamification elements in training, including transparency in scoring so players can compare their performance against others during a training programme using points, badges and leaderboards (O'Connell, 2015). They found that this prevented a drop-off in engagement during the programme. Additionally, the Entertainment Software Association estimates that 70% of major employers use interactive software and games for training (Schwabel, 2013). NATIVE VML has a virtual currency system known as NATIVE Pebbles. Pebbles can be earned by hosting and attending training workshops, and these pebbles can then be spent on external training programs and events (Rivers, 2015).

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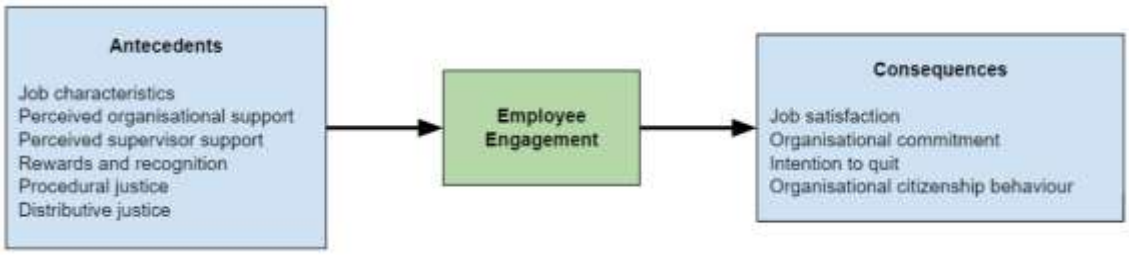
2.3 Employee engagement

2.3.1 What is employee engagement?

Shuck & Rose (2013) define employee engagement as the cognitive, emotional, and behavioural energy an employee directs toward positive organizational outcomes. Another definition of employee engagement is “a distinct and unique construct consisting of cognitive, emotional, and behavioural components … associated with individual role performance” (Shuck, 2010). Jaupi & Llaci (2015) echo this sentiment by defining employee engagement as “the individual’s involvement and satisfaction with as well as enthusiasm for work”. It is a condition that is desirable for the employee and organisation, and produces consequences including involvement, commitment, passion, enthusiasm, focused effort and energy (Jaupi & Llaci, 2015). Saks (2006) found employee engagement to be defined as a combination of emotional and intellectual commitment to the organisation, and the amount of discretionary effort exhibited by employees.

Employee engagement has been modelled by Saks (2006) to include the antecedents and consequences of employee engagement.

Figure 3: A model of the antecedents and consequences of employee engagement (Saks, 2006)



2.3.2 Antecedents of employee engagement

According to Saks (2006), antecedents of employee engagement include job characteristics; perceived organisational support; perceived supervisor support; rewards and recognition; procedural justice; and distributive justice. Supportive leadership is also an important antecedent of employee engagement (Naicker, 2013). Macey & Schneider (2008) state that the conditions under which people work, and the consequences that are thought to be of value to organizational effectiveness,are also antecedents to employee engagement.

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Other antecedents of employee engagement include job fit, affective commitment, and psychological climate. These antecedents have been found to have a significant positive relationship with employee engagement (Shuck, 2010). A good job fit provides opportunities for employees to be involved in meaningful work, which affects the employee's work-related attitudes (Shuck, 2010). Affective commitment emphasises the emotional connection employees have with their organisation, and this parallels the emotive qualities of engagement (Shuck, 2010). Psychological climate "captures the meaningful psychological representations made by individuals relative to the structures, processes, and events that occur inside organizations" (Shuck, 2010). The psychological climate then has important linkages to employee involvement and overall work performance (Shuck, 2010).

2.3.3 Consequences of employee engagement

Of primary important to the organisation should be the fact that employee engagement has been associated with higher levels of profit, overall revenue generation, and growth (Wollard & Shuck, 2011). Engagement theory suggests that more engaged employees will have increased job performance (Soane, Truss, Alfes, Shantz, Gatenby & Rees, 2012).

Employee engagement has many other positive consequences. According to Saks (2006), consequences of employee engagement include job satisfaction, organisational commitment, reduced intention to quit (or turnover), and increased organisational citizenship behaviour. Other benefits of employee engagement include an increase in discretionary effort; a decrease in intention to turnover; enhanced job performance; task performance and organizational citizenship behaviours; productivity; discretionary effort; affective commitment; continuance commitment; levels of psychological climate; and customer service (Shuck, 2010; Wollard & Shuck, 2011).

Engaged employees tend to contribute more to the organisation, are more loyal, and are less likely to leave the company (Macey & Schneider, 2008; Soane, Truss, Alfes, Shantz, Gatenby & Rees, 2012). Other examples of employee engagement include higher productivity (Shuck, 2010), and "the willingness to invest one's self and expend one's discretionary effort to help the employer succeed" (Macey & Schneider, 2008).

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Increased employee engagement also leads to increased organisational citizenship behaviour (Soane, Truss, Alfes, Shantz, Gatenby & Rees, 2012). Employees who engage in practices such as organisational citizenship behaviour tend to have better job satisfaction and higher motivation levels (Mohammad, Habib, & Alias, 2011; Rurkkhum & Bartlett, 2012). Increased job satisfaction is a key contributor to employee wellbeing, and also leads to increased productivity, which is favourable for the organisation as a whole. Mohammad, Habib, & Alias (2011) also found a variety of other benefits from organisational citizenship behaviour, namely an increase in job satisfaction; commitment; learning; formulation of company culture; competence; engagement; and productivity. They also found a decrease in staff turnover rates and absenteeism. Additional consequences of organisational citizenship behaviour include enhanced co-worker and managerial productivity; enhanced organisational ability to attract and retain the best employees; enhanced stability of organisational performance; and enhanced organisational ability to adapt to environmental changes, according to Podsakoff & MacKenzie (2000). These consequences should lead to increased job satisfaction and organisational performance.

Employees with higher education levels will be more concerned with performance and productivity, and organisational citizenship behaviour will increase as education levels increase (Nasir, Mohammadi, Wan Shahrazad, Fatimah, Khairudin, & Halim, 2011).

In conclusion, increased employee engagement is a positive, desirable goal for the organisation. Employee engagement has been associated with higher levels of profit, overall revenue generation, growth, and increased employee job performance (Soane, Truss, Alfes, Shantz, Gatenby & Rees, 2012; Wollard & Shuck, 2011). For the employee personally, increased employee engagement leads to increased job satisfaction, increased productivity, increased loyalty and increased organisational citizenship behaviour (Podsakoff & MacKenzie, 2000; Saks, 2006; Soane, Truss, Alfes, Shantz, Gatenby & Rees, 2012). Increased employee engagement is thus beneficial for both the organisation and the employee.

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2.4 The link between gamification and employee engagement

There is an absence of literature on the link between gamification and employee engagement, which confirms the academic gap. This research project aims to focus on this area, and the research will be relevant for both the academic and business environments.

This research project will benefit academia by exploring the relationship between gamification and employee engagement, which has not been researched as of yet. Wollard & Shuck (2011) suggest that "the antecedents to employee engagement should be in place before organizations can reap the benefits of an engaged workforce". This research project will explore if gamification is one of these possible antecedents.

More worryingly for managers, employee engagement has been reported to be on the decline (Saks, 2006), and new methods need to be found to deal with this decline. No research on gamification was found in South Africa, and this research project will also add to the local body of knowledge on the subject. Applying gamification as an antecedent to the ISA Engagement Scale will also open this scale up to being used to test other possible antecedents to employee engagement by using this scale.

From a business point of view, organisations will benefit from this research project as they can use the information gained to decide if gamification should be used to improve employee engagement, and if it will be beneficial to their organisation.

2.4.1 Does the use of gamification lead to increased employee engagement?

The goal of gamification in this context should be to both intrinsically and extrinsically increase employee engagement. If this is achieved, employees will be more willing to go beyond the requirements in their job descriptions and become organisational citizens, as well as increase their job satisfaction (Mohammad, Habib, & Alias, 2011). Chapters three, four, five and six will deal with the research to establish whether gamification does in fact lead to increased employee engagement.

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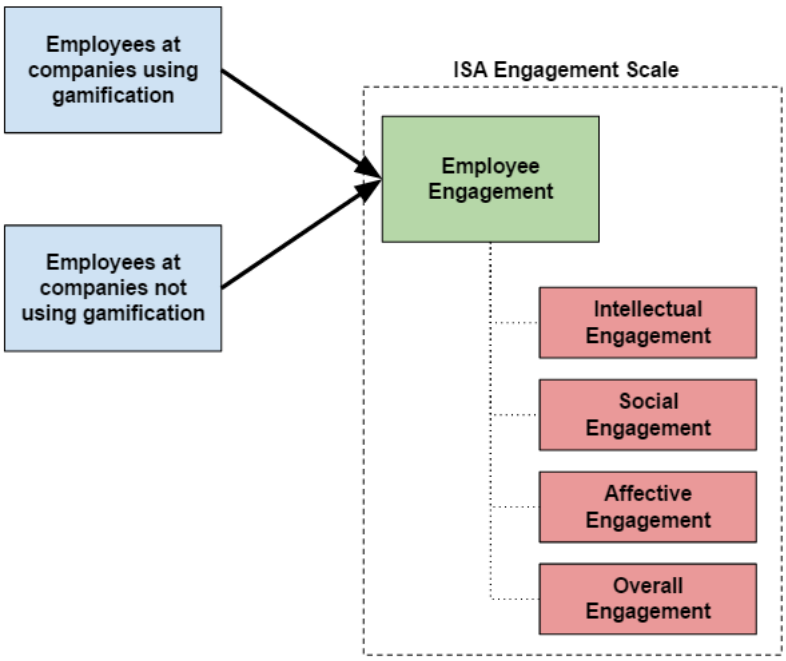
3. Research questions

The topic of the research project is 'The impact of gamification on employee engagement in advertising agencies in South Africa'. From this topic, the following relationship will be researched:

Figure 4: Research problem



H1 – Employees at companies that use gamification are significantly more engaged than employees at companies that do not use gamification.

The ISA Engagement Scale show in the above diagram is a culturally reliable and relevant scale used to test employee engagement levels. The ISA Engagement Scale was developed by Soane, Truss, Alfes, Shantz, Gatenby & Rees (2012). The ISA Engagement Scale measures three areas of engagement, namely:

- Intellectual - the extent to which people are intellectually absorbed in their work, or think hard about the work they are doing (Dodds, 2013);
- Social - the degree to which individuals feel socially connected in their work environment, and share the values of their colleagues (Dodds, 2013);
- Affective - the extent to which individuals experience positive and energizing feelings about their work (Dodds, 2013).

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Overall engagement is then measured by calculating the average score of intellectual, social, and affective engagement.

The objective of this research is to show the link between gamification and employee engagement. This will be done by exploring the consequences of gamification and antecedents of employee engagement. Finally, consequences of employee engagement will be explored to see how they will affect the organisation as a whole. Employee engagement levels will be compared between companies that use gamification and companies that do not use gamification, to determine if gamification has a significant impact on employee engagement.

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4. Research methodology

4.1 Introduction

In this chapter the proposed research methodology is outlined, as well as the rationale for choosing this method. Variables; population; unit of analysis; sample; data collection; data validity; data reliability; and data analysis have also been discussed. Finally, potential research limitations have been described.

4.2 Proposed research method and rationale

The purpose of this research was to evaluate whether employees at companies that use gamification are significantly more engaged than employees at companies that do not use gamification. The research method was quantitative in nature, as the research compared two separate samples (companies using gamification methods and companies not using gamification methods) (Saunders, Lewis & Thornhill, 2012). The research approach was deductive in nature, as data was used to test the research questions (Saunders, Lewis & Thornhill, 2012). The research design was non-experimental in nature, as the sample has not been randomised and the variables have not been manipulated (Shuck, 2010).

A survey research strategy was used, with self-completed online survey questionnaires being used as the research mechanism, using an online Google Form via the Google Docs platform. An example of the questionnaire is included in Appendix I. Questionnaires distributed via the Internet were chosen as the research mechanism as the questions were standardised and would be interpreted in the same manner for all respondents (Saunders, Lewis & Thornhill, 2012). Internet questionnaires are well-utilised in research for a number of reasons, including cost-effectiveness; time efficiency; anonymity; minimised interviewer bias; and minimised interviewer error (Shuck, 2010). Limitations of internet questionnaires include low response rates and technical challenges (Shuck, 2010). The questionnaire combined descriptive questions, questions around the knowledge of gamification, the ISA Engagement Scale (which uses seven-point Likert scale questions) (Soane, Truss, Alfes, Shantz, Gatenby & Rees, 2012), and questions regarding organisational citizenship behaviour and intention to turnover (which also used seven-point Likert scale questions). These questionnaires were distributed to an assortment of employees at various advertising

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agencies (those agencies who use gamification as an organisational tool, and those who do not use gamification).

It is important to note that the ISA Engagement Scale is culturally reliable and relevant, and its literature has been peer reviewed (Truss, Alfes, Delbridge, Shantz & Soane, 2013). The ISA Engagement Scale was created by using many rigorous methods to screen possible engagement questions to build the optimal constructs, including Pearson's product-moment correlation coefficients; principal components analysis; orthogonal Varimax rotation; Kaiser criterion; and Cronbach's Alpha (Soane, Truss, Alfes, Shantz, Gatenby & Rees, 2012).

The ISA Engagement Scale was developed by Soane, Truss, Alfes, Shantz, Gatenby & Rees (2012). According to Dodds (2013), the ISA Engagement Scale measures three areas of engagement, namely:

- Intellectual - the extent to which people are intellectually absorbed in their work, or think hard about the work they are doing (Dodds, 2013);
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- Affective - the extent to which individuals experience positive and energizing feelings about their work (Dodds, 2013).

Overall engagement is then measured by calculating the average score of intellectual, social, and affective engagement.

4.3 Pre-test

A pre-test with 10 of the researcher's colleagues was conducted to ensure the questionnaire was valid and would make sense to the research sample. The 10 colleagues completed the questionnaire while being monitored by the researcher, and verbal feedback was given.

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4.4 Variables

The independent variable causes changes in a dependent variable (Saunders, Lewis & Thornhill, 2012). The context is the area where the research is conducted.

4.4.1 Independent variable

The independent variable in this research was gamification (using components mentioned in the above literature review). This was viewed as an independent variable as it causes changes in a dependent variable (Saunders, Lewis & Thornhill, 2012).

4.4.2 Dependent variable

The dependent variable was employee engagement. This was viewed as a dependent variable as the variable will change in response to changes in other variables (Saunders, Lewis & Thornhill, 2012).

4.4.3 Context

The context of this research was advertising agencies in South Africa.

4.5 Proposed population

The chosen population for this research project was advertising agencies in South Africa. This population was chosen as advertising agencies are demographically young, creative, technologically literate, adaptable to change, and open to new ideas and techniques (Gianatasio, 2015; Sacks, 2010). Management and leadership teams in advertising agencies are very focussed on culture and organisational citizenship behaviour, and are thus open to using new techniques such as gamification.

4.6 Unit of analysis

The unit of analysis chosen was the employees of advertising agencies from the proposed sample group.

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4.7 Size and nature of the sample

The sample comprised employees at South African advertising agencies. Initial agencies were chosen as the researcher had access to key members of the organisations, and these advertising agencies cover a variety of business sizes, clients, and areas of advertising.

4.8 Data collection

Data was collected from the questionnaires and stored in a secure Google spreadsheet. The data was then ready for analysis.

The questionnaires were then distributed based on non-probability self-selection volunteering at these companies, with initial seeding done via emails and social media to the relevant members of the organisations. The questionnaires were distributed by emailing employees at the various agencies, and asking them to complete and share with their friends at their agency and other agencies, as well as on social media. A second reminder email was then sent out a week later. Samples of the emails are attached in Appendix II. Informal language was used to put respondents at ease, but all required legal information was included in the email and questionnaire. A total of approximately 1 500 potential responses was expected. With a presumed conversion rate of 10%, 150 final responses were expected.

4.9 Data validity

The issue of data validity is concerned with the results of the questionnaire representing the true value of what is being measured (Saunders, Lewis & Thornhill, 2012). This concern will be dealt with by comparing the results with what is expected in using gamification outside of the workplace environment.

Content validity refers to the extent to which the questionnaire covers the research questions (Saunders, Lewis & Thornhill, 2012). Factor analysis tests were run to ensure content validity.

Predictive validity is concerned with the ability of the results from the questions in the questionnaire to make accurate predictions (Saunders, Lewis & Thornhill, 2012). This concern was dealt with by using correlation in analysing the data.

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Initially, six constructs were created from the questions in the survey: overall engagement; affective engagement; intellectual engagement; social engagement; organisational citizenship behaviour (OCB); and intent to turnover. Factor analysis tests were run to ensure these six constructs were valid and to ensure data validity.

4.10 Data reliability

Data reliability is concerned with the robustness of the questionnaire, and whether it will produce consistent results in different circumstances (Saunders, Lewis & Thornhill, 2012). The ISA Engagement Scale that was used is culturally reliable and relevant, and has been previously used in peer-reviewed academic research (Truss, Alfes, Delbridge, Shantz & Soane, 2013). The scale's data is therefore reliable. In addition, this was tested as part of the statistical analysis by running Cronbach's Alpha tests on the data to ensure its reliability. It is important to ensure the data is reliable to ensure that the data captured in advertising agencies in South Africa can also be applied to the ISA Engagement Scale.

4.11 Data analysis

The data from the questionnaire was stored in a secure Google spreadsheet. Initially, six constructs were then created from the questions in the survey: overall engagement; affective engagement; intellectual engagement; social engagement; organisational citizenship behaviour (OCB); and intent to turnover. Factor analysis and Cronbach's Alpha tests were run to ensure these constructs were valid and reliable.

Analysis of these constructs was then conducted using the following analyses to test if there was a correlation between gamification and employee engagement:

- Descriptive questions – descriptive statistics from the questionnaire responses, including:
    - Gender;
    - Age group;
    - Highest education level;
    - Position in the organisation; and
    - How long the respondent has worked in the organisation.

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- Gamification questions, including:
  - Has the respondent heard about gamification?
  - Does the respondent's organisation use gamification methods?
  - If so, what gamification methods their company uses.
- ISA Engagement Scale questions
  - F-tests and T-tests were run to compare the relationship between gamification and the employee engagement constructs. The data from the employee engagement constructs were used to compare gamified and non-gamified companies. Independent sample T-tests were run as no measures were repeated. The T-tests were used to test if there was a statistically significant difference between the employee engagement levels of employees at companies that use gamification and companies that do not. The dependent variable in this research was employee engagement and the independent variable was gamification.
- Organisational citizenship behaviour construct
  - An F-test and T-test was run to compare the relationship between gamification and organisational citizenship behaviour. The data from the organisational citizenship behaviour construct was used to compare gamified and non-gamified companies.
- Intent to turnover construct
  - An F-test and T-test was run to compare the relationship between gamification and intent to turnover. The data from the intent to turnover construct was used to compare gamified and non-gamified companies.
- The overall engagement construct scores between gamified and non-gamified companies were then analysed against various descriptive statistics to explore other information regarding the impact of gamification on employee engagement.

The purpose of these tests is to identify the impact of gamification on employee engagement. The T-tests showed whether the impact of gamification had a high significance on the various constructs.

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4.12 Potential research limitations

There were some limitations with the research, including:

The context of the research, being advertising agencies in South Africa, might potentially limit it to relating to other contexts in other industries and countries. As the scale is culturally reliable and relevant, this is a minimal limitation.

The impact of gamification on employee engagement cannot be determined in isolation. Other factors such as differences in employees and company culture might potentially skew the results. Gamification is only one of the possible factors affecting employee engagement.

Non-probability self-selection volunteering sampling was used for this study. Purposive or quota sampling could be used in the future for improved results.

A larger sample group from more companies could be used in the future for improved results. The increased sample size will improve the quality of the statistical results (Saunders, Lewis & Thornhill, 2012).

Questionnaires could be sent out over a longer timeframe. This would reduce the effects of gamification being viewed only as a novelty (Hamari, Koivisto & Sarsa, 2014), and show long-term effects.

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5. Results

5.1 Introduction

In this chapter, the results of the questionnaire responses are presented. The results of data reliability and validity are presented, as well as the results of the statistical analysis done on the data from the survey.

5.2 Description of the sample obtained

The sample comprised employees at advertising agencies across South Africa. A total of 211 respondents' responses were captured.

5.3 Data transformations

Data transformation was done on the nine ISA scale questions, to combine into four constructs, namely intellectual engagement (questions one to three); social engagement (questions four to six); affective engagement (questions six to nine); and overall engagement (questions one to nine). Constructs were also formed for the four organisational citizenship behaviour questions and the two 'intent to turnover' questions.

Further data transformation was also done on the two 'intent to turnover' questions:

- During the next year, I will probably look for a new job outside my current employer
- I am seriously considering quitting my current employer for an alternative employer

The data was reversed for these two questions. This is to ensure that a high response (i.e. 7) will be a positive response, which is how all other questions have been coded.

Data cleaning was done on all open-ended questions to fix category and spelling errors, and to remove personal or irrelevant comments.

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5.4 Results on data validity

Factor analysis tests were done on the five constructs. The five constructs tested were intellectual engagement; social engagement; affective engagement; organisational citizenship behaviour; and intent to turnover. Overall engagement was excluded as this is an average of other constructs. A sample size of 211 is deemed 'fair' and acceptable to run factor analysis on (UCLA Statistical Consulting Group, 2015).

5.5.1 Validity of correlation matrix

Table 1: Correlation matrix

	Int1	**Int2**	**Int3**	**Soc1**	**Soc2**	**Soc3**	**Aff1**	**Aff2**	**Aff3**	**OCB1**	**OCB2**	**OCB3**	**OCB4**	**Turn1**	**Turn2**
Int1	1.0	0.8	0.8	0.5	0.5	0.5	0.6	0.7	0.6	0.4	0.5	0.6	0.5	0.2	0.2
Int2	0.8	1.0	0.8	0.4	0.5	0.5	0.6	0.6	0.6	0.4	0.5	0.6	0.5	0.1	0.2
Int3	0.8	0.8	1.0	0.5	0.4	0.4	0.6	0.6	0.6	0.4	0.5	0.5	0.5	0.1	0.2
Soc1	0.5	0.4	0.5	1.0	0.7	0.7	0.5	0.5	0.5	0.4	0.3	0.4	0.6	0.3	0.3
Soc2	0.5	0.5	0.4	0.7	1.0	0.7	0.5	0.5	0.5	0.3	0.2	0.5	0.5	0.2	0.3
Soc3	0.5	0.5	0.4	0.7	0.7	1.0	0.5	0.5	0.5	0.4	0.2	0.4	0.5	0.2	0.3
Aff1	0.6	0.6	0.6	0.5	0.5	0.5	1.0	0.8	0.8	0.4	0.5	0.6	0.6	0.3	0.4
Aff2	0.7	0.6	0.6	0.5	0.5	0.5	0.8	1.0	0.9	0.5	0.5	0.6	0.6	0.3	0.4
Aff3	0.6	0.6	0.6	0.5	0.5	0.5	0.8	0.9	1.0	0.5	0.5	0.6	0.6	0.4	0.4
OCB1	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.5	0.5	1.0	0.4	0.6	0.6	0.2	0.2
OCB2	0.5	0.5	0.5	0.3	0.2	0.2	0.5	0.5	0.5	0.4	1.0	0.6	0.5	0.1	0.1
OCB3	0.6	0.6	0.5	0.4	0.5	0.4	0.6	0.6	0.6	0.6	0.6	1.0	0.7	0.2	0.2
OCB4	0.5	0.5	0.5	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.7	1.0	0.4	0.4
Turn1	0.2	0.1	0.1	0.3	0.2	0.2	0.3	0.3	0.4	0.2	0.1	0.2	0.4	1.0	0.9
Turn2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.2	0.1	0.2	0.4	0.9	1.0

When analysing, all variables in the correlation matrix had at least one correlation above 0.3. This ensures that the correlation data is valid.

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5.5.2 Kaiser-Meyer-Olkin and Bartlett's test

Table 2: KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		**0.893**
Bartlett's Test of Sphericity	Approx. Chi-Square	2601.005
	df	105
	Sig.	**0.000**

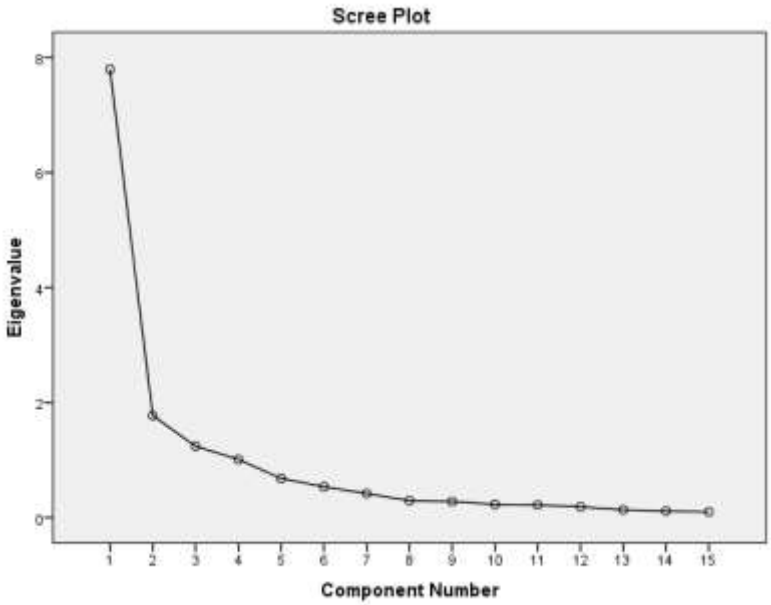
The result of the Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.893, which is acceptable. An acceptable result is greater than 0.6, with results closer to 1 being better (UCLA Statistical Consulting Group, 2015).

The result of the Bartlett's Test of Sphericity shows a Sig. of 0, which shows that the correlation matrix is an identity matrix.

These two results provide a minimum standard for allowing a principal component analysis to be conducted (UCLA Statistical Consulting Group, 2015).

5.5.3 Principal Component Analysis

Figure 5: Scree Plot



The Scree Plot shows that four components contribute to the majority of the variance. The components below an Eigenvalue of 1 are removed as they account for negligible amounts of variance (UCLA Statistical Consulting Group, 2015).

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Table 3: Component matrix

	Component			
	1	**2**	**3**	**4**
Int1	.806	-.250	.042	-.328
Int2	.790	-.318	.059	-.370
Int3	.751	-.334	.047	-.370
Soc1	.714	.121	-.494	.150
Soc2	.682	.056	-.567	.093
Soc3	.694	.073	-.568	.078
Aff1	.824	.036	.086	-.121
Aff2	.859	.033	.093	-.059
Aff3	.846	.031	.125	-.107
OCB1	.612	-.086	.207	.513
OCB2	.603	-.284	.365	.280
OCB3	.790	-.163	.232	.291
OCB4	.800	.121	.083	.312
Turn1	.410	.830	.215	-.076
Turn2	.445	.808	.172	-.181

The component matrix shows the percentage of variance of each question that can be loaded onto the various components. Using the principal component analysis extraction method, four components were extracted. The component matrix shows the results of the Scree Plot above in a different format.

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Table 4: Rotated component matrix

	Component			
	1	**2**	**3**	**4**
Int1	**.828**	.251	.261	.075
Int2	**.873**	.231	.222	.020
Int3	**.852**	.208	.211	-.009
Soc1	.231	.240	**.808**	.163
Soc2	.261	.161	**.835**	.085
Soc3	.272	.154	**.841**	.106
Aff1	**.604**	.378	.310	.315
Aff2	**.587**	.444	.333	.314
Aff3	**.617**	.417	.290	.325
OCB1	.116	**.789**	.215	.070
OCB2	.362	**.723**	.007	-.033
OCB3	.408	**.750**	.227	.095
OCB4	.271	**.656**	.397	.313
Turn1	.036	.117	.106	**.940**
Turn2	.129	.046	.136	**.936**

The rotation method used was Varimax with Kaiser Normalization, and the rotation converged in six iterations. The highest variances for each question shows us which component that question belongs to. The following constructs were then created by grouping the questions into the relevant factors by selecting the highest result:

- Intellectual and affective engagement – Int1, Int2, Int3, Aff1, Aff2, Aff3;
- Social engagement – Soc1, Soc2, Soc3;
- Organisational citizenship behaviour – OCB1, OCB2, OCB3, OCB4; and
- Intent to turnover – Turn1, Turn2.

It is important to note that intellectual and affective engagement have now been combined into one construct due to the results of the principal component analysis.

Statistical analysis was then run on the final five constructs created from data validity: overall engagement construct, intellectual and affective engagement construct, social engagement construct, organisational citizenship behaviour construct, and intent to turnover construct.

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5.5 Results on data reliability

Cronbach's Alpha tests were run on the questions pertaining to the five constructs to ensure reliability. The five constructs tested were intellectual and affective engagement construct; social engagement construct; overall engagement construct; organisational citizenship behaviour construct; and intent to turnover construct.

Table 5: Cronbach's Alpha construct results

Construct	Cronbach's Alpha	Cronbach's Alpha based on standardized items	No of items
Overall engagement	**.926**	.929	9
Intellectual and affective engagement	**.930**	.932	6
Social engagement	**.880**	.880	3
Organisational citizenship behaviour	**.842**	.847	4
Intent to turnover	**.932**	.932	2

Cronbach's Alpha results were found for the five constructs. Overall engagement had a Cronbach's Alpha result of 0.926; intellectual and affective engagement had a Cronbach's Alpha result of 0.930; social engagement had a Cronbach's Alpha result of 0.880; organisational citizenship behaviour had a Cronbach's Alpha result of 0.842; and intent to turnover had a Cronbach's Alpha result of 0.932. As all the Cronbach's Alpha results on the five constructs were far higher than the accepted reliability of 0.70 (Lance, 2006) it can be concluded that the results of the data are reliable.

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Table 6: Cronbach's Alpha item statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Int1	11.46	5.173	.839	.721	**.916**
Int2	11.52	4.898	.898	.806	**.868**
Int3	11.38	5.265	.840	.724	**.915**
Soc1	9.45	8.058	.772	.597	**.826**
Soc2	9.55	7.725	.758	.575	**.838**
Soc3	9.67	7.728	.772	.597	**.825**
Aff1	10.39	8.087	.823	.678	**.931**
Aff2	10.79	6.845	.887	.796	**.881**
Aff3	10.46	7.278	.878	.784	**.887**
OCB1	15.84	16.041	.620	.401	**.830**
OCB2	15.21	18.204	.597	.393	**.832**
OCB3	15.20	16.487	.801	.660	**.751**
OCB4	15.45	15.992	.713	.568	**.783**
Turn1	5.22	4.669	.873	.762	**-**
Turn2	4.68	4.987	.873	.762	**-**

Additionally, as all five constructs had a Cronbach's Alpha score of above 0.70, no individual items needed to be removed from the constructs to improve their Cronbach's Alpha scores (Lance, 2006).

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5.6 Descriptive statistical results

There were a total of 211 respondents. Below is a table showing a summary of the descriptive question statistical results.

Table 7: Summary of descriptive question statistics

	What is your gender?	**What is your age group?**	**What is your highest education level?**	**What is your position in the organisation?**	**How long have you worked for the organisation?**
Valid	211	211	211	211	211
Mean	-	30-39	Bachelor's Degree	Team member	1-3 years
Median	-	30-39	Bachelor's Degree	Team member	1-3 years
Mode	-	30-39	Bachelor's Degree	Team member	1-3 years
Standard Deviation	0.501	0.689	1.155	0.679	1.351
Kurtosis	**-2.017**	**1.956**	**-0.059**	**-0.622**	**1.674**
Skewness	**0.048**	**1.017**	**0.580**	**0.703**	**1.379**

The descriptive data analysed was based on 211 valid responses. George & Mallery (2010) state that skewness and kurtosis results of between -2 and +2 are acceptable. Age group, highest education level, position in the organisation, and how long they have worked at the organisation are all within the acceptable norms. Skewness results for gender were within the acceptable norms, while kurtosis results for gender were slightly outside of the acceptable norms at -2.017.

5.6.1 Gender results

Of the respondent group, there was an even gender split, with 51% (108) being female, and 49% (103) being male.

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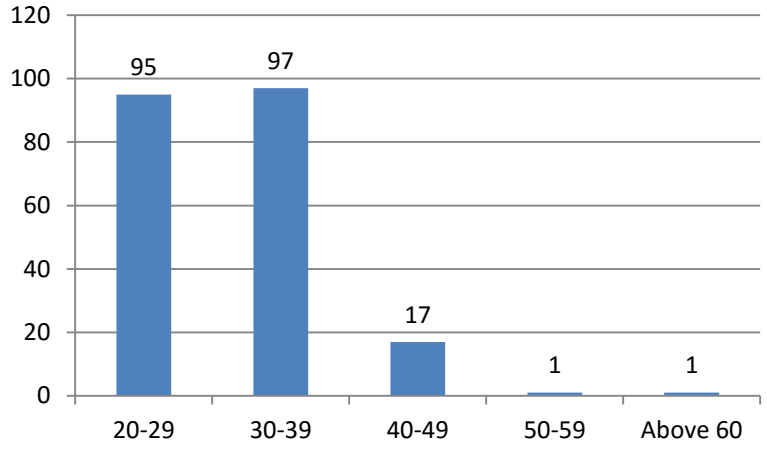
5.6.2 Age group results

In terms of age group, 46% (97) of the respondents were between 30-39 years of age. 45% (95) of the respondents were between 20-29 years of age. 8% (17) of the respondents were between 40-49 years of age. The vast majority of the respondents were between 20-39 years of age (91%), which corresponds with the young age demographic of advertising agencies.

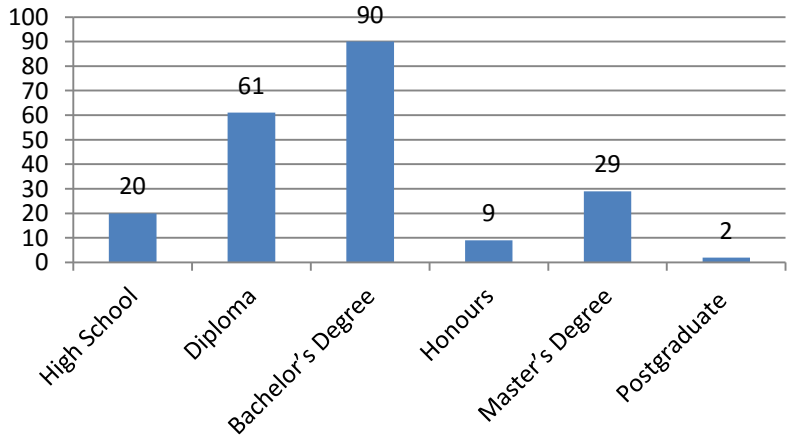
Figure 6: Age group results



5.6.3 Highest education level results

The respondent group had a varied level of highest education reached: 43% (90) of the respondents had a Bachelor's degree; 29% (61) of the respondents had a diploma; and 14% (29) had a Master's degree. Sixty-two percent (130) of the respondents had a university degree, showing an overall high average level of education.

Figure 7: Highest education level results



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5.6.4 Position in the organisation results

In terms of position in the organisation, 51% (108) of the respondents were team members, 38% (80) of the respondents were managers, and 11% (23) were executives. This follows the team percentage expected in an advertising agency.

5.6.5 Time at the organisation results

Thirty-three percent (70) of respondents had been at the organisation for under a year, and 34% (72) of the respondents had been at the organisation for between one and three years. Twenty percent (42) of the respondents had been at the organisation for between three and five years and 87% of the respondents had been at the organisation for less than five years, which corresponds to the volatility of the advertising job market.

5.6.6 Descriptive results summary

Of the respondent group, there was an even gender split, with 51% (108) being female, and 49% (103) being male. The vast majority of the respondents were between 20-39 years of age (91%), which corresponds with the young age demographic of advertising agencies. Sixty-two percent (130) of the respondents had a university degree, showing an overall high average level of education. In terms of position in the organisation, 51% (108) of the respondents were team members, 38% (80) of the respondents were managers, and 11% (23) were executives. This follows the team percentage expected in an advertising agency. Eighty-seven percent of the respondents had been at the organisation for less than five years, which corresponds to the volatility of the advertising job market.

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5.7 Gamification question statistical results

Table 8: Summary of gamification question statistics

	Have you heard about gamification?	**Does your company use gamification methods?**
Valid	211	211
Mean	Yes	Yes
Median	Yes	Yes
Mode	Yes	Yes
Standard Deviation	0.294	0.499
Kurtosis	**5.820**	**-1.986**
Skewness	**-2.787**	**-0.182**

The gamification question data analysed was based on 211 valid responses. George & Mallery (2010) state that skewness and kurtosis results of between -2 and +2 are acceptable. The question regarding whether the employee's company uses gamification methods had kurtosis and skewness results within acceptable norms. The question regarding if the employee had heard about gamification had kurtosis and skewness results outside of the acceptable norms at 5.820 and -2.787 respectively. This is due to the fact that a very high percentage of 91% (191) of the respondent group had heard of gamification, with only 9% (20) unaware of gamification. As advertising agencies are consistently working with new ideas and technologies, it is expected that the large percentage would know about gamification.

There was a fairly even split between the respondents' organisations using and not using gamification: 55% (115) of the respondents said that their company uses gamification methods, and 45% (96) of the respondents said that their company does not use gamification methods. This is in line with the literature, as over 50% of organisations expected to gamify their innovation processes by 2015 (Hamari, Koivisto & Sarsa, 2014).

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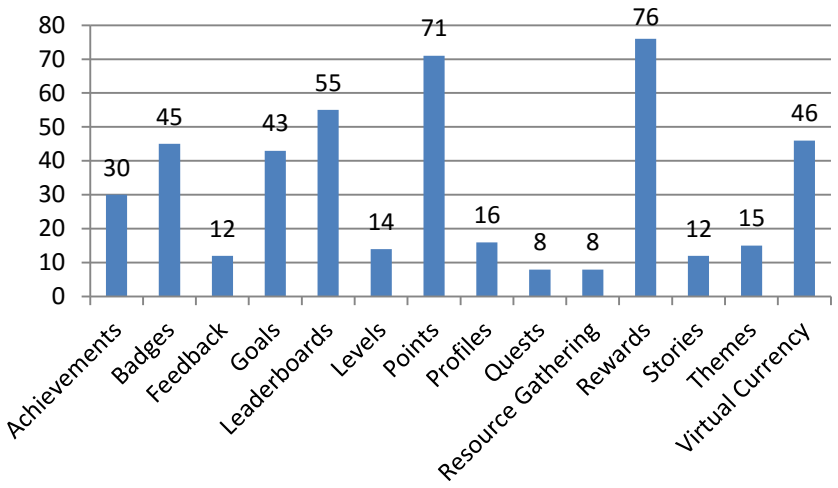
Of that 55%, a variety of gamification methods were used by their organisation. The most used methods of gamification used included rewards, points, leaderboards, virtual currency, badges, and goals.

Figure 8: Methods of gamification used in the organisation results



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5.8 Statistical results of the comparison between employee engagement levels of gamified and non-gamified companies

The results of the factor analysis on the questions from the ISA Engagement Scale resulted in three constructs: intellectual and affective engagement construct, social engagement construct, and overall engagement construct.

Table 9: Summary of all engagement constructs

		Overall Engagement Construct	Intellectual And Affective Engagement Construct	Social Engagement Construct
N	Valid	211	211	211
	Missing	0	0	0
Mean		5.2749	5.5023	4.7678
Median		5.00	5.50	5.00
Mode		6.00	5.50	5.00
Std. Deviation		1.1465	0.9017	1.3897
Variance		1.315	0.8130	1.932
Skewness		**-.555**	**-0.5185**	**-.200**
Std. Error of Skewness		.167	.167	.167
Kurtosis		**-.058**	**-0.1199**	**-.599**
Std. Error of Kurtosis		.333	.333	.333
Range		5.0	4.5	6.0
Minimum		2.0	2.5	1.0
Maximum		7.0	7.0	7.0

The engagement construct data analysed was based on 211 valid responses. George & Mallery (2010) state that skewness and kurtosis results of between -2 and +2 are acceptable. Overall engagement, intellectual and affective engagement, and social engagement had kurtosis and skewness results within acceptable norms.

F-tests and T-tests were then run on the employee engagement constructs to determine if employees at companies that use gamification had significantly higher employee engagement levels than employees at companies that do not use gamification.

Hypothesis: Employee engagement levels are not significantly higher at companies that use gamification compared to companies that do not use gamification.

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Table 10: F-Tests: two-sample for variances on the various employee engagement constructs between gamified and non-gamified groups

	Overall Engagement Not Gamified	**Overall Engagement Gamified**	**Intellectual And Affective Engagement Not Gamified**	**Intellectual And Affective Engagement Gamified**	**Social Engagement Not Gamified**	**Social Engagement Gamified**
Mean	5.041	5.469	5.38	5.6	4.552	4.947
Variance	1.556	1.040	0.844	0.772	2.291	1.576
Observations	96	115	96	115	96	115
df	95	114	95	114	95	114
F	1.495		1.092		1.454	
P(F<=f) one-tail	**0.019**		**0.323**		**0.027**	
F Critical one-tail	1.379		1.379		1.379	
Variances	Unequal		Equal		Unequal	

F-tests (two-sample for variances) were conducted to check variances. Variances were found to be unequal for overall engagement and social engagement constructs with one-tailed p-results of 0.027 and 0.019 respectively, which are both less than 0.05 at 5% significance. Variances were found to be equal for the intellectual and affective engagement construct with a one-tailed p-result of 0.323, which is greater than 0.05 at 5% significance. T-tests were then conducted to compare the three employee engagement construct results between gamified and non-gamified companies.

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Table 11: T-tests: two-sample on the various employee engagement constructs between gamified and non-gamified groups

	Overall Engagement Not Gamified	**Overall Engagement Gamified**	**Intellectual And Affective Engagement Not Gamified**	**Intellectual And Affective Engagement Gamified**	**Social Engagement Not Gamified**	**Social Engagement Gamified**
Variances	Unequal	Unequal	Equal	Equal	Unequal	Unequal
Mean	5.041	5.469	5.385	5.6	4.552	4.947
Variance	1.556	1.040	0.844	0.772	2.291	1.576
Observations	96	115	96	115	96	115
Pooled Variance	-		0.805		-	
Hypothesized Mean Difference	0		0		0	
df	183		209		185	
t Stat	-2.692		-1.729		-2.041	
P(T<=t) one-tail	**0.0038**		**0.042**		**0.021**	
t Critical one-tail	1.653		1.652		1.653	
P(T<=t) two-tail	0.007		0.085		0.0426	
t Critical two-tail	1.973		1.971		1.972	

Overall engagement, intellectual and affective engagement, and social engagement all had p-results lower than 0.05 at 5% significance, with results of 0.0038, 0.042, and 0.021 respectively. Gamification therefore had a highly significant impact on overall engagement, intellectual and affective engagement, and social engagement.

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Table 12: Overall results for level of significance between gamification and employee engagement constructs

	Overall Engagement	**Intellectual And Affective Engagement**	**Social Engagement**
P(T<=t) one-tail	0.0038	0.042	0.021
Significance	Highly significant	Highly significant	Highly significant

The research therefore negates the hypothesis that employee engagement levels are not significantly higher at companies that use gamification compared to companies that do not use gamification, at the 5% level of significance.

In conclusion, gamification had a highly significant impact on overall engagement, intellectual and affective engagement, and social engagement.

5.9 Other pertinent results

5.9.1 Comparing the organisational citizenship behaviour construct and the intent to turnover construct results between gamified and non-gamified companies

Table 13: Summary of organisational citizenship behaviour and intent to turnover constructs

		Organisational Citizenship Behaviour Construct	**Intent To Turnover Construct**
N	Valid	211	211
	Missing	0	0
Mean		5.2227	5.0664
Median		5.0000	6.0000
Mode		6.00	7.00
Std. Deviation		1.34612	2.11240
Variance		1.812	4.462
Skewness		-.531	-.700
Std. Error of Skewness		.167	.167
Kurtosis		-.373	-.939
Std. Error of Kurtosis		.333	.333
Range		5.00	6.00
Minimum		2.00	1.00
Maximum		7.00	7.00

The organisational citizenship construct and the intent to turnover construct data analysed was based on 211 valid responses. George & Mallery (2010) state that

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skewness and kurtosis results of between -2 and +2 are acceptable. Both constructs had kurtosis and skewness results within acceptable norms.

F-tests and T-tests were then run on the organisational citizenship behaviour construct and the intent to turnover construct to determine if employees at companies that use gamification had significantly higher organisational citizenship behaviour levels and intent to turnover levels than employees at companies that do not use gamification.

Hypothesis: Organisational citizenship behaviour and intent to turnover levels are not significantly higher at companies that use gamification compared to companies that do not use gamification.

Table 14: F-Test: two-sample for variances on the organisational citizenship behaviour construct and the intent to turnover construct between gamified and non-gamified groups

	Organisational Citizenship Behaviour Not Gamified	**Oranisational Citizenship Behaviour Gamified**	**Intent To Turnover Not Gamified**	**Intent To Turnover Gamified**
Mean	4.968	5.434	4.75	5.330
Variance	2.199	1.405	4.968	3.924
Observations	96	115	96	115
df	95	114	95	114
F	1.564		1.265	
P(F<=f) one-tail	**0.011**		**0.113**	
F Critical one-tail	1.379		1.379	
Variances	Unequal		Equal	

F-tests (two-sample for variances) were conducted to check variances. Variances were found to be unequal for the organisational citizenship behaviour construct with a one-tailed p-result of 0.011, which is less than 0.05 at 5% significance. Variances were found to be equal for the intent to turnover construct with a one-tailed p-result of 0.113, which is greater than 0.05 at 5% significance. T-tests were then conducted to compare the organisational citizenship behaviour construct results and the intent to turnover

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construct results between gamified and non-gamified companies.

Table 15: T-tests: two-sample on the organisational citizenship behaviour construct and the intent to turnover construct between gamified and non-gamified groups

	Organisational Citizenship Behaviour Not Gamified	**Organisational Citizenship Behaviour Gamified**	**Intent To Turnover Not Gamified**	**Intent To Turnover Gamified**
Variances	Unequal	Unequal	Equal	Equal
Mean	4.968	5.434	4.75	5.330
Variance	2.199	1.405	4.968	3.924
Observations	96	115	96	115
Pooled Variance	-		4.399	
Hypothesized Mean Difference	0		0	
df	181		209	
t Stat	-2.486		-2.0017	
P(T<=t) one-tail	**0.0069**		**0.0233**	
t Critical one-tail	1.653		1.652	
P(T<=t) two-tail	0.01380		0.046	
t Critical two-tail	1.973		1.971	

The organisational citizenship behaviour construct and the intent to turnover construct had p-results of 0.0069 and 0.0233 respectively. Both of these p-results were lower than 0.05 at 5% significance. Gamification therefore had a highly significant impact on organisational citizenship behaviour and intention to turnover (which have been reversed i.e. this means to not leave the company).

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Table 16: Overall results for level of significance between gamification and the organisational citizenship behaviour and the intent to turnover constructs

	Organisational Citizenship Behaviour	**Intent To Turnover**
P(T<=t) one-tail	0.0069	0.0233
Significance	Highly significant	Highly significant

The research therefore negates the hypothesis that organisational citizenship behaviour and intent to turnover levels are not significantly higher at companies that use gamification compared to companies that do not use gamification, at the 5% level of significance.

In conclusion, gamification had a highly significant impact on organisational citizenship behaviour and intent to turnover.

5.9.2 Overall engagement scores between gamified and non-gamified companies compared to descriptive statistics

When overall engagement scores between gamified and non-gamified companies were compared based on gender, it was found that both genders responded positively to gamification, with no major difference between the two genders.

Table 17: Total overall engagement scores of different age groups comparing gamified and non-gamified companies

	20-29	**30-39**	**40-49**	**50-59**	**Above 60**
Non-Gamified	4900	5104	5500	5000	5000
Gamified	5455	5388	5909	-	-

When comparing overall engagement scores based on age group, it was found that all age groups respond positively to gamification. The age group of 40-49 are most engaged with or without gamification. The age group of 50 and above have not used gamification.

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Table 18: Total overall engagement scores of different highest education level groups comparing gamified and non-gamified companies

	High School	Diploma	Bachelor's Degree	Honours	Master's Degree	Postgraduate
Non-Gamified	5167	5250	5098	4000	4733	-
Gamified	4625	5622	5622	5800	5786	5500

When comparing overall engagement scores based on highest education level, it was found that all education levels respond positively to gamification, with the exception of high school level employees, who responded negatively to gamification. Honours and Master's degree level employees are most positively affected by gamification.

Table 19: Total overall engagement scores of position in company groups comparing gamified and non-gamified companies

	Team Member	Manager	Executive
Non-Gamified	5000	4909	5538
Gamified	5466	5362	6000

When comparing overall engagement scores based on position in the company, it was found that all positions respond positively and at a similar ratio to gamification. Executives have higher engagement scores regardless of gamification.

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Table 20: Total overall engagement scores of number of years at the company groups comparing gamified and non-gamified companies

	Less than 1 year	1-3 years	3-5 years	5-8 years	8-10 years	10-15 years	Over 15 years
Non-Gamified	5294	5086	4000	5800	5500	5000	5000
Gamified	5667	5378	5481	5200	4000	5333	-

When comparing overall engagement scores based on number of years at the company, it was found that gamification increases employee engagement for employees who have been at their company for between 1-5 years. Engagement scores then decrease for employees who have been at the company for 5-10 years. Engagement scores then increase for employees who have been at the company for over 10 years. Gamification increases engagement scores most for employees who have been at the company for 3-5 years.

5.9.3 Additional information question

This data was sanitised to remove personal and irrelevant information.

- A sense of achievement is important at work - however that materialises.
- Although we do not use gamification specifically in our organisation, we certainly create our own games and create gaming platforms like leaderboards etc. for client work.
- While not strictly ‘gamification’ in its purest sense, it's worth considering company culture as a motivating factor. My company organises regular social events and fun diversions for its employees, and everyone is pleasant and supportive. While there's no element of competition, knowing that a happy company is a better place to work for has a noticeable effect on everyone's morale. Also, what about things like performance-related increases and bonuses? Those are possibly the earliest form of gamification in the workplace!
- Gamification is a great way to incentivise employees.
- I feel I would be a LOT more into my job and feel respected in my work if our company had gamification. I wish we did.

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- Gamification is the next college. The learning maturity is high. Out with classroom, chalkboard training.
- I cannot compare my values, goals or attitude to my other colleagues as I don't know what their goals, attitude or goals are. I believe that knowledge sharing, and mentorship at some level is very important in lessening employee churn.
- Fixed term contract employment may skew some of the results.
- I think gamification in the work space is good - it creates a fun and healthy competition between teams to be brilliant and be recognised! I found in our business it was good to have the team involved in developing these types of 'systems' - they were then able to buy into it and add things that were important to them.
- Not sure what you're measuring, but if you're looking for a direct correlation between gamified systems and my 'happiness' at work - or my likelihood of remaining there indefinitely. Also curious if your respondents understand what concepts like 'stories', 'themes' or 'quests' actually mean...

Some themes were found from the extra data provided by employees in response to this question. Responses showed that gamification is respected and people enjoy it. In some cases, gamification is used in client work and not in the employee's actual work environment. An interesting point raised was that other motivating factors such as company culture, work happiness, social events, performance-related increases and bonuses, knowledge sharing, mentorship, competition, and a sense of achievement are also very important. Gamification must work with these other points of motivation. Additionally, gamification can affect fixed term contract employees differently to regularly employed employees.

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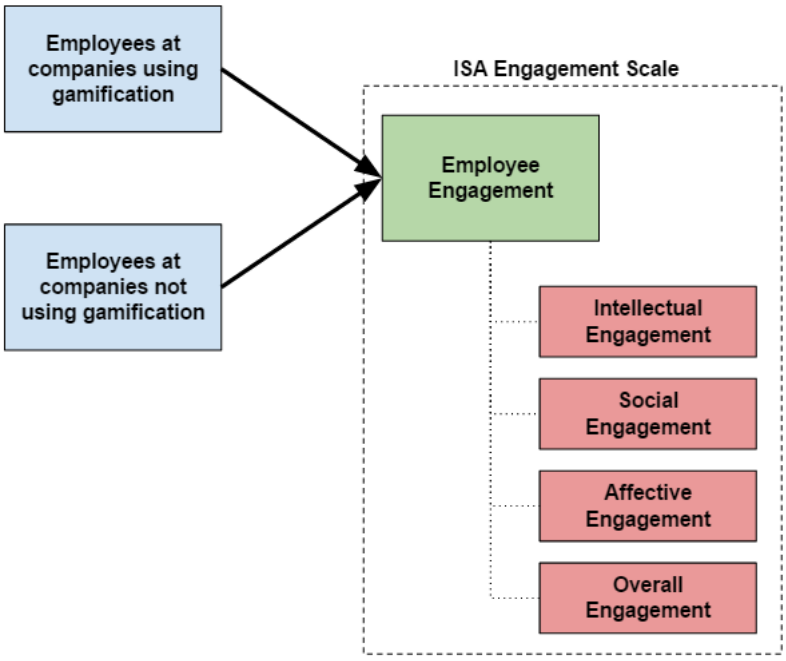
6. Discussion of results

6.1 Introduction

In this chapter, the results of the research are discussed. The research question of whether employees at companies that use gamification are significantly more engaged than employees at companies that do not use gamification is answered. Additional relevant information found from conducting the statistical analysis is presented. The results of this research are then discussed in terms of the literature reviewed in chapter two.

6.2 Answering the research problem

Figure 9: Research problem



H1 – Employees at companies that use gamification are significantly more engaged than employees at companies that do not use gamification.

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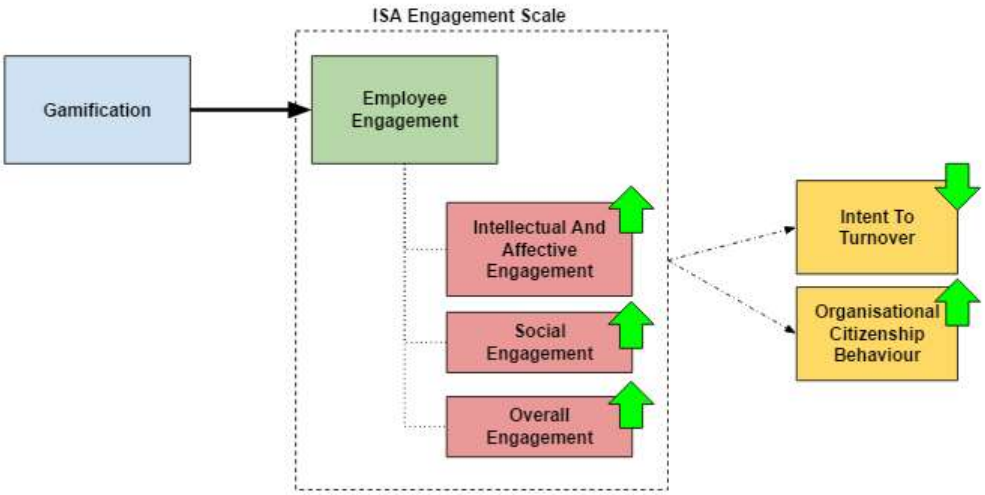
Figure 10: Answering the research problem



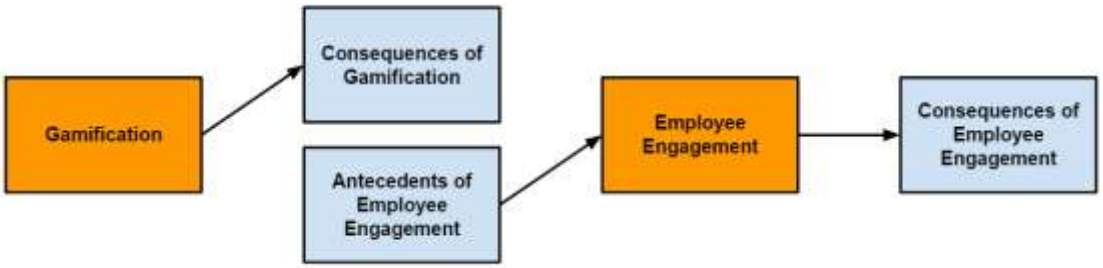
Gamification had a highly significant impact on overall engagement, intellectual and affective engagement, and social engagement.

The research question has therefore been answered. Employees at companies that use gamification are significantly more engaged than employees at companies that do not use gamification.

As discussed in the literature review in chapter two, there is a research gap between gamification and employee engagement. This research has shown that gamification has a highly significant impact on employee engagement.

Additionally, the antecedents and consequences of employee engagement were discussed in the literature review. The results of the research support the fact that gamification is an antecedent of employee engagement, and that gamification has an affect on consequences of employee engagement, namely increased organisational citizenship behaviour and decreased intent to turnover.

Figure 11: The relationships between gamification and employee engagement



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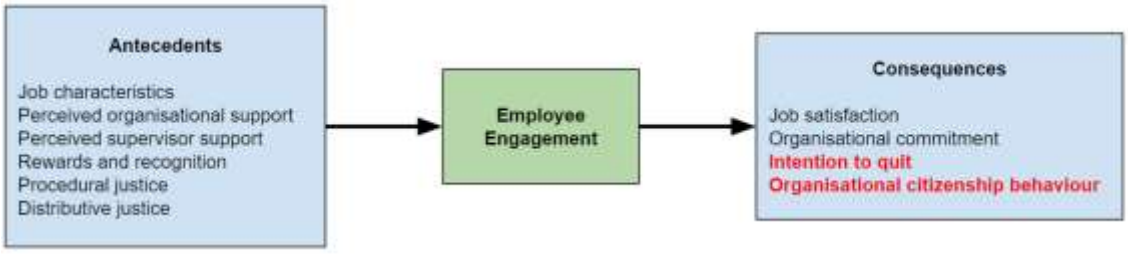
6.3 The effect of gamification on certain consequences of employee engagement

The questionnaire also tested the effect of gamification on certain consequences of employee engagement, namely organisational citizenship behaviour and intent to turnover.

Employee engagement has been modelled by Saks (2006) to include the antecedents and consequences of employee engagement.

Figure 12: A model of the antecedents and consequences of employee engagement (Saks, 2006)



6.3.1 The effect of gamification on organisational citizenship behaviour

Gamification was found to have a significant statistical impact on organisational citizenship behaviour. This is important to management, as employees who engage in practices such as organisational citizenship behaviour tend to have better job satisfaction and higher motivation levels (Mohammad, Habib, & Alias, 2011; Rurkkhum & Bartlett, 2012). This in turn leads to improved employee wellbeing and increased productivity, which is favourable for the organisation as a whole. Organisational citizenship behaviour also benefits the organisation by increasing commitment; learning; formulation of company culture; competence; engagement; and productivity (Mohammad, Habib, & Alias, 2011). They also found a decrease in staff turnover rates and absenteeism. Additional consequences of organisational citizenship behaviour include enhanced co-worker and managerial productivity; enhanced organisational ability to attract and retain the best employees; enhanced stability of organisational performance; and enhanced organisational ability to adapt to environmental changes, according to Podsakoff & MacKenzie (2000).

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6.3.2 The effect of gamification on intent to turnover

Gamification was found to have a significant statistical impact on intent to turnover. This supports the literature review, as positive outcomes of employee engagement include job satisfaction, organisational commitment, reduced intention to quit (or turnover), and increased organisational citizenship behaviour (Saks, 2006). The research result showing that gamification has a positive impact on employee engagement is thus supported by the literature.

6.4 The relationship between gamification and age group

When comparing overall engagement scores based on age group, it was found that all age groups respond positively to gamification. The age group of 40-49 are most engaged with or without gamification. The age group of 50 and above have not used gamification. These results support the literature review, as Bittner & Shipper (2014) found that gamification works better on a younger age group, and among users who have had experience playing games.

6.5 The relationship between gamification and education level

Interestingly, employees who had lower education levels (such as a high school certificate) responded negatively to gamification, while employees with a higher level of education responded most positively to gamification. This corresponds with the literature, as employees with higher education levels will be more concerned with performance and productivity, and organisational citizenship behaviour will increase as education levels increase (Nasir, Mohammadi, Wan Shahrazad, Fatimah, Khairudin, & Halim, 2011). As gamification has been shown to have a positive effect on organisational citizenship behaviour, employees with higher levels of education should respond positively to gamification.

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6.6 The relationship between gamification and position in the company

When comparing overall engagement scores based on position in the company, it was found that all positions respond positively and at a similar ratio to gamification. Executives have higher engagement scores regardless of gamification. Further research is required on the relationship between gamification and position in the company.

6.7 The relationship between gamification and number of years at the company

When comparing overall engagement scores based on number of years at the company, it was found that gamification increases employee engagement for employees who have been at their company for between 1-5 years. Engagement scores then decrease for employees who have been at the company for 5-10 years. Engagement scores then increase for employees who have been at the company for over 10 years. Gamification increases engagement scores most for employees who have been at the company for 3-5 years. Further research is required on the relationship between gamification and number of years at the company.

6.8 Components of gamification used in organisations

Statistical results showed that a variety of gamification methods were used by the organisations involved in the questionnaire. The most used methods of gamification used included rewards, points, leaderboards, virtual currency, badges, and goals.

These findings are similar to what was found in the study of the literature, which showed the same components to be relevant to the success of gamification. These include points (used to track the user's progress); leader boards (to add competition); levels and goals (to ensure that the user is motivated to keep progressing and doing more tasks); achievements (a form of goal achievement and surprise that typically come in the form of 'badges' which result in a sense of pride and accomplishment for the user); and rewards (which add incentives to the system and lead to increased usage and engagement) (Deterding, 2012; Genser, 2012; Muntean, 2011; Hamari, Koivisto & Sarsa, 2014).

These methods can be used in the workplace for various goals such as recruitment, induction, and training (O'Connell, 2015; Rivers, 2015).

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6.9 Comparing literature to the additional information question

Some themes were found from the extra data provided by employees in response to this question. Responses showed that gamification is respected and people enjoy it. This is supported by the literature, as Kim (2015) and Osheim (2013) stated that gamification allows users to get more out of their real lives compared to the games they play as a form of escapism. Gamification brings the fun of playing games into the real world, and is exciting because it promises to make the hard stuff in life fun (Smith, 2015).

Respondents noticed that other motivating factors such as company culture, work happiness, social events, performance-related increases and bonuses, knowledge sharing, mentorship, competition, and a sense of achievement are also very important. These antecedents of employee engagement correspond with Saks' (2006) antecedents of employee engagement, which include job characteristics; perceived organisational support; perceived supervisor support; rewards and recognition; procedural justice; and distributive justice.

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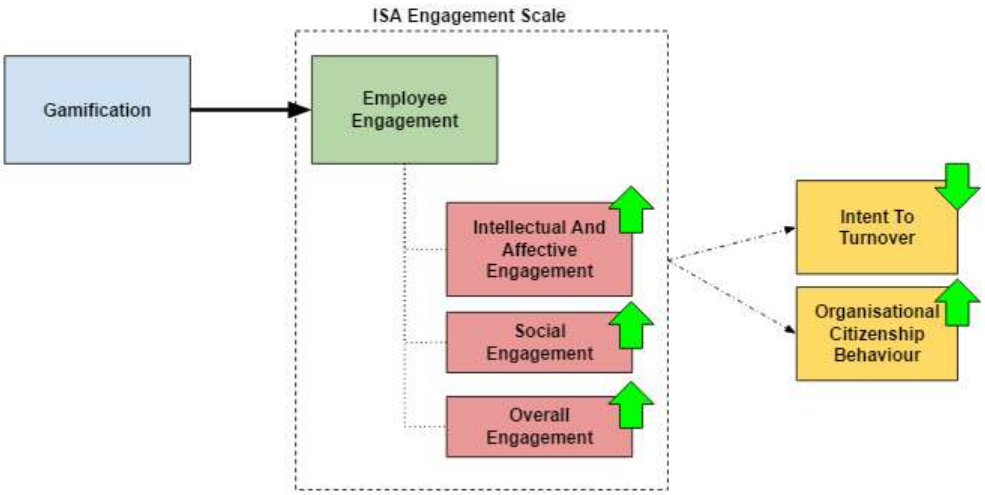
7. Conclusion

7.1 Introduction

In this chapter, the conclusions of the research problem are shown. Principal findings are discussed, and the implications of these findings for management are revealed. Limitations of the research are shown, as well as suggestions for further research.

7.2 Principal findings

Figure 13: Answering the research problem



Gamification had a highly significant impact on overall engagement, intellectual and affective engagement, and social engagement.

Additionally, gamification had a highly significant impact on two consequences of employee engagement: increased organisational citizenship behaviour and decreased intent to turnover.

The most used methods of gamification in advertising agencies in South Africa include rewards, points, leaderboards, virtual currency, badges, and goals.

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7.3 Business implications

The research has shown that gamification has a highly significant impact on employee engagement. As employee engagement has highly positive benefits for the organisation, gamification is an important tool for businesses to use to increase employee engagement and thus improve their performance. Increased employee engagement also leads to various other benefits, such as increased organisational citizenship behaviour and reduced intention to quit.

7.4 Academic implications

The research has shown that gamification has a highly significant impact on employee engagement. Academically, this has filled the gap in research into the link between gamification and employee engagement. This research has shown that gamification has a highly significant impact on employee engagement.

Additionally, it has shown that an antecedent of employee engagement can be applied to the ISA Engagement Scale. Further academic research can now be done applying other antecedents to the ISA Engagement Scale.

7.5 Limitations of the research

There were some limitations with the research, including:

The context of the research, being advertising agencies in South Africa, might potentially limit it to relating to other contexts in other industries and countries. As the scale is culturally reliable and relevant, this is a minimal limitation.

The impact of gamification on employee engagement cannot be determined in isolation. Other factors such as differences in employees and company culture might potentially skew the results. Gamification is only one of the possible factors affecting employee engagement.

Non-probability self-selection volunteering sampling was used for this study. Purposive or quota sampling could be used in the future for improved results.

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A larger sample group from more companies could be used in the future for improved results. The increased sample size will improve the quality of the statistical results (Saunders, Lewis & Thornhill, 2012).

Questionnaires could be sent out over a longer timeframe. This would reduce the effects of gamification being viewed only as a novelty (Hamari, Koivisto & Sarsa, 2014), and show the long-term effects.

7.6 Suggestions for future research

Future research can be done around the different types of gamification methods, and which methods have the highest impact on employee engagement.

Research can also be done over an extended time period to deduce what effect time has on gamification and employee engagement.

Further research can be done on the relationship between gamification and position in the company, and the relationship between gamification and number of years at the company.

7.7 Concluding statement

In conclusion, gamification had a highly significant impact on overall engagement, intellectual and affective engagement, and social engagement. Additionally, gamification had a highly significant impact on two consequences of employee engagement: increased organisational citizenship behaviour and decreased intent to turnover.

As employee engagement has highly positive benefits for the organisation, gamification is an important tool for businesses to use to increase employee engagement and thus improve their performance.

Academically, the research has shown that an antecedent of employee engagement can be applied to the ISA Engagement Scale. Further academic research can now be done applying other antecedents to the ISA Engagement Scale.

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Appendix I – Questionnaire

Gamification & Employee Engagement

Hi there!

My name's Levon. I'm finishing off my MBA at GIBS this year, and need your help in completing a short 5 minute survey around your employee engagement.

My research project is on the impact of gamification on employee engagement in advertising agencies in South Africa. From your answers to the survey, I hope to find out what impact gamification has on your employee engagement.

SO, WHAT IS GAMIFICATION?

Gamification is the application of typical elements of game playing (e.g., point scoring, leader boards, rewards, competition with others, rules of play) to other areas of activity, in this case your everyday work life and job. Gamification is exciting because it promises to make the hard stuff in life fun ;)

Please note - your participation is voluntary and you can withdraw at any time without penalty. All data will be kept anonymous. By completing the survey, you indicate that you voluntarily participate in this research. If you have any concerns, please contact my supervisor or I. Our details are provided below:

Researcher | Levon Rivers | 082 686 5835 | levonrivers@gmail.com

Supervisor | Patsy Hime | 082 528 1045 | patsy.hime@riotinto.com

1. Descriptive Questions
    a. What is your gender?
        □ Male □ Female
    b. What is your age group?
        □ Below 19 □ 20-29 □ 30-39 □ 40-49 □ 50-59 □ Above 60
    c. What is your highest education level?
        □ None □ High School □ Diploma □ Bachelor's Degree □ Master's Degree □ Doctorate □ Other
    d. What is your position in the organisation?
        □ Team member □ Manager □ Executive

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e. How long have you worked for the organisation?

□ Less than 1 year □ 1-3 years □ 3-5 years □ 5-8 years □ 8-10 years □ 10-15 years □ Over 15 years

2. Gamification questions

a. Have you heard about gamification?

Gamification is the application of typical elements of game playing (e.g., point scoring, leader boards, rewards, competition with others, rules of play) to other areas of activity. Examples of gamification include Discovery Vitality, Weight Watchers, and the Nike Fuel system

□ Yes □ No

b. Does your company use gamification methods?

Please note that we are talking about gamification in your workplace, not gamification in client campaigns. Examples include leaderboards, points, rewards, badges etc.

□ Yes □ No

c. If so, what methods do they use?

□ Points □ Leaderboards □ Goals □ Profiles □ Achievements □ Badges □ Rewards □ Levels □ Quests □ Stories □ Themes □ Virtual Currency □ Resource Gathering □ Feedback □ Other

3. ISA Engagement Scale

a. I focus hard on my work

1 strongly disagree □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 strongly agree □

b. I concentrate on my work

1 strongly disagree □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 strongly agree □

c. I pay a lot of attention to my work

1 strongly disagree □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 strongly agree □

d. I share the same work values as my colleagues

1 strongly disagree □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 strongly agree □

e. I share the same work goals as my colleagues

1 strongly disagree □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 strongly agree □

f. I share the same work attitudes as my colleagues

1 strongly disagree □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 strongly agree □

g. I feel positive about my work

1 strongly disagree □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 strongly agree □

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h. I feel energetic in my work

1 strongly disagree □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 strongly agree □

i. I am enthusiastic in my work

1 strongly disagree □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 strongly agree □

4. Organisational Citizenship Behaviour Questions

a. I attend functions that are not required but that help the organizational image

1 strongly disagree □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 strongly agree □

b. I offer ideas to improve the functioning of the organization

1 strongly disagree □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 strongly agree □

c. I take action to protect the organization from potential problems

1 strongly disagree □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 strongly agree □

d. I defend the organization when other employees criticize it

1 strongly disagree □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 strongly agree □

5. Turnover Questions

a. During the next year, I will probably look for a new job outside my current employer

1 strongly disagree □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 strongly agree □

b. I am seriously considering quitting my current employer for an alternative employer

1 strongly disagree □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 strongly agree □

6. Additional Information

a. Anything else you'd like to add?

Open paragraph-space question

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Thank You Page

Thank you, your response has been recorded. We appreciate you helping us in researching gamification in South Africa!

Please spread this link to other people you know in advertising to improve the results of this survey. Here's a sample tweet to spread:
Do you work in SA advertising? Help @levonrivers research gamification by completing this survey! http://goo.gl/forms/Q3IQ56YdXN #gamificationthesis
If you are interested in finding out more, or getting in contact, feel free to tweet me @levonrivers
If you are interested in finding out more on gamification, Coursera has a fantastic online course at https://class.coursera.org/gamification-002/lecture

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Appendix II – Emails

Email 1

Lev needs your help with his gamification research project!

Hey guys

I'm finishing up my MBA, and am busy writing my research project titled... The impact of gamification on employee engagement in advertising agencies in South Africa!

To properly research this I need data, so I'm sending out questionnaires to everyone I can who works in an advertising agency in South Africa - the bigger the sample size the better the data.

HOW YOU CAN HELP

There are three things you can do to help me out:

1. Most importantly - pls fill out a simple 5-minute form @ http://goo.gl/forms/Q3IQ56YdXN

2. Forward this email to your friends at other ad agencies, so we can get as big a sample size as possible. I'm trying to be as un-spammy as possible, but the best way to spread this is via email - even to 2 or 5 of your friends! Remember to use bcc ;)

3. Lastly, if you could spread on social - something like this message:

Do you work in SA advertising? Help @levonrivers research gamification by completing this survey! http://goo.gl/forms/Q3IQ56YdXN #gamificationthesis

Thanks in advance for the help - I really appreciate it.

Lev

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Email 2

Reminder Email - Lev's gamification research project - last chance to help!

Hey guys

Thanks so much for helping out with getting data for my research project - I received a ton of responses, and I'm almost done - just a few more responses needed! If you haven't already filled in the survey (if you work at an ad agency) and/or asked your ad agency friends, please can you - this is the last mail I'll send!

Thanks again. Just a reminder on how you can help:

1. Most importantly - pls fill out a simple 5-minute form @ http://goo.gl/forms/Q3IQ56YdXN

2. Forward this email to your friends at other ad agencies, so we can get as big a sample size as possible. I'm trying to be as un-spammy as possible, but the best way to spread this is via email - even to 2 or 5 of your friends! Remember to use bcc ;)

3. Lastly, if you could spread on social - something like this message:

Last chance to help @levonrivers with his #gamificationthesis research in ad agencies - complete this 5min survey! http://goo.gl/forms/Q3IQ56YdXN

Thanks again!

Lev

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Appendix III – Turnitin Submission Report

The Turnitin report has been excluded for the electronic version of this research project.

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Appendix IV – Ethical Clearance Letter

Gordon Institute of Business Science
University of Pretoria

Dear Levon Rivers

Protocol Number: **Temp2015-02123**

Title: **The effect of gamification on employee engagement in advertising agencies in South Africa**

Please be advised that your application for Ethical Clearance has been APPROVED.

You are therefore allowed to continue collecting your data.

We wish you everything of the best for the rest of the project.

Kind Regards,

Adele Bekker

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