Gamification in Recruitment: A Strategic Approach for Modern Talent Acquisition

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The study aims to investigate the key elements of successfully integrating gamified recruitment in Finland. It gathers insight on six defined aspects regarding the perception towards gamified recruitment in Finland: (1) General modern perspective, (2) Gamification elements, (3) Skill assessments and identification of top talent, (4) Candidate engagement, (5) Diversity and inclusion, (6) The role of the software developer.

The research seeks to align its findings with Self-Determination Theory (SDT) principles by examining how gamification can be integrated into recruitment following specific psychological values. The thesis adopted a mixed-method approach, including an online survey and an interview with a software developer involved in designing a gamified assessment tool.

According to the general perspective, the research results showed that gamification significantly enhances candidate engagement during recruitment by using different elements such as real-life simulation, problem-solving tests, and challenges. These mechanics make the candidate more involved and accurately assess their skills and suitability for the job. Additionally, software developers are viewed as essential in designing, implementing, and evaluating compelling, fair, and relevant-to-the-role gamified assessments.

The thesis also showed that gamification in recruitment processes can potentially promote diversity and inclusion. It can help reduce the existing biases in traditional recruitment by focusing on the skills and performance of the candidates rather than their background. Gamified assessments are also seen as a modern instrument that can attract more skilled candidates from different demographic backgrounds. However, this effectiveness relies heavily on the successful implementation to prevent new forms of bias.

Lastly, the study found that gamified recruitment can increase autonomy by using engaging processes, boost competence as it allows participants to demonstrate their skills effectively, and serve relatedness by offering a more inclusive environment, thus satisfying the fundamental psychological needs posed by SDT.

Overall, this thesis posits that gamification in recruitment is an efficient but complex tool for contemporary recruitment. It requires thoughtful planning and execution so that both employers and candidates can benefit.

Key words
Gamification, recruitment, talent acquisition, skill assessment, job applicant, game design
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1 Introduction

The recruitment process has witnessed a significant change throughout the evolution of the digital era. The change is caused by the presence of innovative methods derived from technological advancement aiming to engage and assess candidates. Among these ground-breaking methods, gamification has surfaced as a creative strategy, offering a new view to recruitment.

The concept of gamification leverages human psychological needs for competition, achievement, and social interaction (Ryan, Rigby, & Przybylski, 2006). By integrating these principles into recruitment processes, organizations aim to attract, engage, and assess potential candidates more effectively and creatively (Gupta & Gomathi, 2017). Companies are adding gaming elements like competition, challenges, rewards, and interactive experiences in the recruitment process to engage, motivate, and assess candidates more effectively (Ērgle, 2015). Gamification has gained a lot of attention from researchers around the world. It presents an interesting connection between psychology, human behavior, and technology (Blštáková & Piwowar-Sulej, 2019, 4). It provides a fresh perspective on how organizations can make recruitment more engaging and efficient. With gamified assessments, employers can gain valuable insight into candidates’ skill sets and behavior, thus encouraging continuous improvement throughout the recruiting process (Simpson & Jenkins, 2015). The theoretical aspect of the thesis will provide an overview of gamification theory, its impact on the recruiting process, and its potential benefits and challenges. The study will introduce the psychological principles of the Self-Determination Theory (SDT) and how they interplay with gamification mechanics. After that, it will compare gamified recruitment methods to traditional recruitment methods and provide a developer’s point of view regarding implementing gamified recruitment.

1.1 Objective of the Study

The study examines the key elements of successful gamification strategies in the recruitment process within the Finnish context, focusing on how game-design elements such as leaderboards, points, and badges influence recruitment effectiveness. Firstly, the study will analyze the current general perspectives on gamified recruiting to realize its importance and relevance in the Finnish context. Much of the study will focus on the relationship between gamification and candidate engagement. The research will also examine how gamification could promote diversity and inclusion within the hiring process and what gamification elements are best for assessing candidates and selecting the most suitable ones. Lastly, the research will investigate the best implementation methods from the perspective of a software developer, specifically in the design processes of gamified recruitment.
The results are derived from an online survey focused on a sample of individuals based in Finland and an interview with a game developer directly involved in making a gamified recruitment game. The interview and survey will provide qualitative and quantitative data analysis to help answer the research questions. The study will partially consider the role of Self-Determination Theory (SDT) in understanding the psychological impact of these strategies, particularly how they align with the needs for autonomy, competence, and relatedness among job candidates in Finland.

1.2 Research Questions

The main question of the research is: "What are the key elements of successful gamification strategies in the Finnish job market?"

The auxiliary questions support the primary question:

1. What is the modern perspective on gamification in recruitment in Finland?
2. How do gamification elements impact the efficiency of the recruitment process?
3. How does gamified recruitment affect the accuracy of skill assessments and the identification of suitable candidates?
4. How do gamification elements affect candidate engagement during the recruitment process?
5. What is the impact of gamification in recruitment on diversity and inclusivity?
6. What is the role of software developers in designing, implementing, and evaluating gamified recruitment systems?

1.3 Scope of the study

The study examines the impact of gamification on recruitment within the Finnish labor market. It showcases various gamification aspects and systems relevant to recruitment, e.g., game-based assessments, challenges, and points and rewards systems. Study findings mainly focus on job applicants' experiences and perceptions regarding gamified recruitment. It also considers the game developers' experiences in implementing gamified recruitment. Diversity and inclusivity are discussed as they relate to gamified recruitment, but not all dimensions of diversity are explored. The study evaluates gamified recruitment considering organizational objectives, but company strategies and operations will not be covered. Alignment with the SDT principles will not be targeted directly. Still, it will be achieved inherently through understanding the principles and the insightful analysis of the survey and interview results.
1.4 Significance of the study

This thesis presents general perspectives useful for organizations interested in applying gamification in their hiring and learning programs. Organizations can use this information to create games or simulations that enhance employee engagement, boosting performance and reducing turnover rates. Besides that, this study will serve as a basis for further research. Both job seekers and organizations can benefit from the results regarding gamification's impact on recruitment. This research has implications for applied practice in the labor market and for enhancing the theory behind gamification. The study enhances the understanding of gamification principles by exploring how gamification can be utilized effectively and efficiently in the Finnish labor market, potentially leading to new insights or developing refined theories.

1.5 Research Hypotheses

The following is the six hypotheses with each corresponding to one of the auxiliary questions themes:

1- **Modern perspective in Finland** → In a technological and innovative country such as Finland, the general perceptions regarding gamification in recruitment are viewed positively in terms of its ability to increase attraction and engagement among candidates in the screening process.

2- **Impact on the efficiency of the process** → Gamification elements such as skill challenges and leaderboards increase the efficiency of the candidate screening process, thereby shortening evaluation periods.

3- **Accuracy of skill assessments and Identification of top talent** → Gamified screening processes will result in more accurate skill assessments and better identification of suitable candidates, providing a more interactive and comprehensive evaluation environment.

4- **Impact on candidate engagement** → Gamification elements like feedback and rewards will significantly increase candidate engagement during the screening process.

5- **Impact on diversity and inclusivity** → Incorporating gamification in recruitment will positively impact diversity and inclusivity by reducing biases and attracting a more diverse pool of candidates.

6- **Role of software developers** → Software developers play a critical role in designing, implementing, and maintaining gamified recruitment systems, as they possess the technical expertise needed to create efficient and intuitive solutions.
2 Theoretical Framework

2.1 Gamification Theory: An Interpretation & History

The foundation of this research is rooted in the theory and principles of gamification. Gamification, as described by (Deterding, Dixon, Khaled, & Nacke, 2011, 9), is the strategic integration of game-like elements into non-game contexts to enhance engagement, motivation, and desired behaviors. Gamification involves having some aspects of game playing, such as scoring points, earning rewards, and engaging in challenges and competition to engage users.

The term "gamification" can be traced back to the beginning of the 21st century when it rose to fame in the digital media industry. In 2002, the term was used by a British computer programmer and inventor, Nick Pelling; the consultancy business of which he was the owner targeted bringing game-like features into non-gaming applications (Christians, 2018, 16).

Even though the gamification concept was introduced in the early 2000s, it only became recognized in mid-2010 and became famous through business and mainstream media domains (Deterding & al. 2011, 10). The idea of gamification, however, started much earlier than when it became popular. There is no clear evidence of the first use of gamification, but one may even say that gamification's roots could be traced back to the 1900s. In 1912, the American Cracker Jack popcorn brand started adding a free prize to every bag (Griffin, 2014). While the concept of a free prize in every bag does not cover all gamification principles, it includes some of its elements.

The birth of gamification can be traced to the S&H loyalty Green Stamps in the US in the 1930s. Customers would collect stamps based on how much they had purchased, and they can refer to these stamps in catalogs in exchange for items, thereby earning rewards based on their purchases (Zichermann & Cunningham, 2011, 7). This method is like the way gamification systems are used today. The first frequent flyer loyalty program started in 1972, with United Airlines introducing the "Mileage Plus" program (Zichermann & Cunningham, 2011, 7-8). Such programs included awarding some points for miles flown and then redeeming them for rewards to motivate consumer behavior as a typical element of gamification (Zuo, Xiong, Wang, & Iida, 2019).

Although gamification has become popular today, it is not well analyzed by empirical research regarding enhancing recruitment processes (Obaid, Farooq, & Abid, 2020). Despite the advantages of gamification, there are issues regarding its adequacy, and effect on candidates' engagement and skill assessment (Georgiou, Gouras, & Nikolaou, 2019). A few academic and industry professionals have critically analyzed gamification in recruitment. For example, Broer (2014) showed considerable methodological weaknesses in many studies supposedly
demonstrating gamification successes, such as sampling size or lack of control group. Broer (2014) also mentions that gamification's advantages are less widespread than they are perceived, and only some users are significantly impacted by gamified elements. Therefore, there is a need for more accurate and extensive research to have a clearer picture of the true impact of gamification.

2.2 Gamification in Recruitment

The evolution of simulations in modern military training at the beginning of the 21st century made it possible for soldiers to make strategic and tactical decisions in a safe setting (Ahmed, 2023). Then, gamification elements started to be applied in other industries like education and business (Deterding & al., 2011). This led to the use of gamification in recruitment, which became an increasingly used method for improving hiring and training processes. Organizations of different shapes and sizes come on board to apply the concept to keep their employees engaged and motivated.

The traditional recruitment processes are not considered motivating enough to attract the best candidates and retain them in organizations (Eaton, 2023). Most candidates see these processes as uninteresting, which may result in high turnover and poor performance. Today's workplace requires more than just job execution but the application of creativity and knowledge sharing (Kumar & Raghavendran, 2015). Gamification in recruitment offers candidates a new, innovative perspective on making this process more engaging (Gupta & Gomathi, 2017). Many organizations recognize the need to stand out in the competitive talent market, and gamification was seen to inject creativity and innovation into the hiring process (Blštáková & Piwowar-Sulej, 2019, 4).

2.3 Psychological Foundations

Gamification is a concept that has some psychological basis, like the innate thirst for excellence, recognition, and accomplishment. Such principles create favorable conditions for engagement and stimulation, which may lead to the user's high activity and adherence (Ryan & al., 2006). Gamification stems from psychological theories and practices used nowadays in a more organized and deliberate fashion, significantly increasing engagement, involvement, and intended results across various settings like recruiting.

2.3.1 Self-Determination Theory (SDT)

The Self-Determination Theory (SDT) is a psychological theory that describes individuals' personalities and motives (Ryan & Deci, 2000). The theory states that people are driven by different types of motivators, such as Intrinsic and Extrinsic motivators. According to Ryan and
Deci (2000), intrinsic motivators refer to participating in an activity for the satisfaction it provides rather than the rewards. Meaning the only motive behind doing the action is because it is fun. Since human beings are different, there are many aspects to consider when determining what is fun. For some people, the challenge is fun, and to others, the activity brings personal meaning, making the experience enjoyable. Gamification can accomplish that by creating these activities and making the experience pleasurable by implementing game elements such as challenges, storytelling, and exploration.

On the other hand, extrinsic motivators refer to taking part in an activity only to obtain rewards or any set outcome. The extrinsic motivation can be divided into three subcategories:
- External regulation: engaging in an activity to avoid punishment or gain a reward.
- Introjected regulation: engaging in an activity to gain self-esteem or avoid feeling guilty.
- Identified regulation: engaging in an activity because they find meaning in it and it aligns with their goals and values.

Ryan and Deci (2000) further explain that SDT posits that three essential psychological needs are universal and contribute to psychological health and well-being. These are:
- Autonomy: the need to feel in control of one's behaviors and goals.
- Competence: the need to gain mastery of tasks and learn different skills.
- Relatedness: the need to feel a sense of belonging and attachment to others.

2.4 Gamification and Motivation

Gamification involves applying intrinsic and extrinsic motivation components to encourage specific behaviors. Gamification incites people to be active participants by making their experiences enjoyable and exciting (intrinsic motivation) (Ryan & al., 2006). Additionally, extrinsic forms of motivation are utilized as rewards and recognition (Zichermann & Cunningham, 2011, 15-33).

Understanding the inter-relationships between intrinsic and extrinsic motivation has a significant connotation in recruitment. Immersive experiences of interactive challenges may provide a candidate with intrinsic satisfaction in the gamified recruitment process. At the same time, extrinsic rewards like badges or leaderboard rankings can also encourage candidates to finish assessments and remain active. Self-determination theory is one among other theories of the psychological foundations of gamification. It indicates that gamification should balance intrinsic and extrinsic motivators for gamified experiences to be meaningful and psychologically compelling (Ryan & al., 2006).
2.5 Recruitment Processes

2.5.1 The Traditional Recruitment Process

In the traditional recruitment process, there is a sequence of standard procedures described in six stages that assist human resources specialists and hiring managers, starting from the job opening to the integration stage of the employee (Indeed Editorial Team, 2022).

- **Preparing**: involves job advertising when an employee is needed.
- **Sourcing**: where potential candidates are searched and reported.
- **Screening**: This includes reviewing resumes and shortening the list of candidates.
- **Selecting**: which involves interviews and candidate evaluations.
- **Hiring**: involves final checks such as reference verification and background checks.
- **Onboarding**: marks the beginning of the recruited employee’s journey in an organization.

2.5.2 Gamified Recruitment Process

Using gamification in recruitment does not mean replacing other ways of doing it, but instead, it adds on or enhances them most of the time. Organizations can customize it to any stage of the recruitment process that aligns with:

- The objective and vision of the company
- The characteristic of the job positions they are looking to fill.
- Candidates experience they seek to provide.

2.6 Gamified & Traditional Recruitment Diagram

Figure 1 shows how the process could flow between gamified and traditional recruitment methods. The blue boxes refer to the conventional recruitment method, and the green boxes refer to the gamified ones. Gamified recruitment works as a complementing alternative to some of the traditional steps.

The gamified preparing step refers to the added value of gamification in recruitment as it helps with engagement and employer branding, which would, in turn, attract more candidates. Interactive contests or challenges can entice potential candidates and familiarize them with the company's culture and work environment. (Simpson & Jenkins, 2015)

After the sourcing, the gamified process can work as a replacement for screening. Companies can apply gamification to screen applicants instead of going through resumes to shorten the list of candidates. Game-like assessments that measure individual skills or cognitive abilities assist employers in identifying promising candidates (Leutner, Codreanu, Brink, & Bitsakis, 2023).
Suppose the employer chooses not to use gamification to replace CV screenings. In that case, it can work in the next step of evaluation and selection as an additional assessment step to complement the interviews. Companies often conduct tests in addition to the interview to test the candidates' skills, but gamified recruitment assessments can help reduce the stress (Leutner & al., 2023). Combining conventional interviews with gamified assessments gives recruiters a holistic candidate profile.

After the hiring process is completed, gamification can allow new hires to interact with gamified learning modules that would make induction to their new tasks informative and enjoyable. Companies made use of this technique during the Covid pandemic to engage the candidate and introduce them to the company culture through the use of simulations in a VR environment (Greensing-Pophal, 2022).

![Diagram showing Traditional and Gamified Recruitment Process](image)

**Figure 1: Traditional and Gamified Recruitment Process**

### 2.7 Key Elements and Gamification Mechanics

The components of a gamified system involved different type of tools, that if employed effectively, can result in a significant reaction from the player (Zichermann & Cunningham, 2011). According to Kirovska, Josimovski, & Kiselicki, (2020, 61-64) there are several important mechanics and they can be listed as follows:

- **Points and rewards:** Gamification uses points as an essential tool for giving progress indicators and showing accomplishments. The points system aims at improving users' participation and motivation.
- **Badges and achievements**: Graphic symbols such as badges or achievements are granted to a person after completing any activity. They are a mark of accomplishment that helps people strive for specific targets.

- **Leaderboards**: represent the ranking element of the participants involved in the assessment, and where they are placed in the ranking list depends on their performance in the test. The illustrations would also assist in boosting the user's performance, such as enabling one to compare their skills with those of other users.

- **Challenges and quizzes**: Challenges and quizzes aim to assess the user's skills while integrating the element of fun. They can be tailored to a user's preference or targeted at specific learning objectives.

- **Feedback systems**: Provide users with different feedback forms to keep track of their progress and develop desirable behavior patterns. The user must receive this kind of feedback to maintain motivation and achieve the intended purpose.

- **Simulation**: uses interactive game-like scenarios that mimic real-life tasks or challenges relevant to a job role. They are designed to engage candidates in a more dynamic way than the traditional methods.

2.8 **Benefits of Gamification in Recruitment**

There are plenty of benefits for gamification in recruitment:

- **Improved Candidate Engagement**: The interactive nature of this procedure is quite engaging as it keeps candidates thrilled. Also, it may reduce the stress accompanying traditional recruitment methods and make the process fun and enjoyable (Blštáková & Piwowar-Sulej, 2019, 4).

- **Skills Assessment and Identification of Talent**: Gamification identifies skills based on challenges, simulations, and interactive assessments. It is an efficient, effective, and fun way of evaluating applicants' and workers' skills and competencies (Simpson & Jenkins, 2015, 2).

- **Diverse Candidate Pool**: With gamification, different types of candidates can be attracted and offered a fairground (Mateus, Campis, Jabba, Erazo, & Romero, 2023).

- **Reduced hiring time**: Using gamification in the application phase can also reduce employment time. Applicants take only a few minutes to complete their gamified assessment, after which the results are automatically forwarded (Zanina, Saso & Martin, 2020, 64).

- **Reduced Costs**: The long and multiple rounds of interviews and assessments in the traditional recruitment method can be time-consuming and expensive. Costs are reduced in the long term within a gamified recruitment process. This reduction is tied to the ability to
adjust a game to suit current needs and use it at various employee life cycle stages (Blštáková & Piwowar-Sulej, 2019, 6).

2.9 Challenges, Potential Risks and Ethical Considerations

Two of the main challenges of gamified recruitment are data and security concerns, and potential biases & fairness.

- Data Security & Privacy Concerns: There are concerns regarding data privacy and using data collected through gamification in recruitment. Ensuring user privacy is an essential component of any technology development, which could result from following data protection regulations like GDPR (Mavroeidi, Kitsiou, Kalloniatis, & Gritzalis, 2019, 10-11).

- Biases and Fairness: Another crucial challenge entails addressing the issue of fairness and ease of use when implementing gamification in the recruitment process (Kirovska, Josimovski, & Kiselicki, 2020). For some, it might be an advantage whereby a candidate's familiarity with gaming may give them an upper hand compared to other unacquainted candidates who may end up being discriminated against, making it unjust and biased for them.

2.10 Gamification and Technology: The Developer's Perspective

Technical issues and considerations exist in creating gamified applications for recruiting. Some of these are system:

- Scalability to many applicants,
- Compatibility with other HR technologies,
- Integrity of user data

Software developers are integral actors in the gamified recruitment scene. They are more than coders, as they should be able to understand how the system elements interact with psychology to engage users. Moreover, developing gamified software typically involves a cycle of seven key stages: Project Preparation, Analysis, Ideation, Design, Implementation, Evaluation, and Monitoring. This iterative process focuses on understanding user needs, creating engaging experiences, and continuously adapting the software to ensure it remains effective and relevant (Morschheuser, Hassan, Werder, & Hamari, 2017).

2.11 Structure of the thesis

The structure of the study is informed by a conceptual framework that seeks to identify and evaluate the effects of gamification elements on the recruitment process. The framework anticipates that using such elements may lead to improved outcomes, including more efficient
candidate screening, enhanced assessment of skills, and increased engagement and diversity among candidates. Self-Determination Theory (SDT) serves as a supporting model within this framework, providing a psychological basis for understanding how gamification elements fulfil innate needs for autonomy, competence, and relatedness, thereby enhancing motivation. The research predominantly aims to assess the direct influence of gamification elements on desired recruitment outcomes. Hypotheses derived from this framework will be tested to establish the effectiveness and impact of gamified recruitment, guiding future designs and strategies in talent acquisition.

### 2.12 Conceptual Framework

Figure 2 below shows the conceptual framework of the study:

![Conceptual Framework](image)

Figure 2: Conceptual Framework
Table 1 below explains the possible connection between the main aspects of the thesis to gamification elements and SDT principles:

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Linkage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modern perspective</td>
<td>Gamification elements → fostering a sense of autonomy, competence, and relatedness → improved outlook on gamification</td>
</tr>
<tr>
<td>Efficiency of the process</td>
<td>Do gamification elements satisfy psychological needs and increase intrinsic motivation?</td>
</tr>
<tr>
<td>Skill assessment</td>
<td><strong>Autonomy</strong>: gamification elements → more choices &amp; control → +autonomy → + engagement → + intrinsic motivation → + efficiency (diligent and quick process)</td>
</tr>
<tr>
<td>Candidate engagement</td>
<td><strong>Competence</strong>: Gamification elements → demonstrating own skills → gaining mastery over challenges → + competence → + engagement → + skill assessment → Efficiency</td>
</tr>
<tr>
<td>Diversity &amp; inclusion</td>
<td><strong>Relatedness</strong>: Gamification elements → inclusivity → sense of belonging → +relatedness → +Engagement → +efficiency</td>
</tr>
<tr>
<td>Role of software developer</td>
<td>Developer designs → implement SDT principles → Increase intrinsic motivator → Effective gamified recruitment</td>
</tr>
</tbody>
</table>

Table 1: Conceptual Framework Link to SDT Principles

Note: (The sign “→” in the table refers to: “leads to” and the “+” sign refers to increase or improve)
3 Methodology

A mixed-method approach has been used in this study and it combines quantitative and qualitative data from an online survey and qualitative insights from an interview.

3.1 Data Collection: Online Survey

The survey aimed to investigate candidate perceptions, experiences, and attitudes toward gamification in recruitment. The survey focused on a wide range of individuals from ages under 18 to above 65 in Finland. The survey was distributed via social media (Appendix 3) and professional platforms. Emails with cover letters (Appendix 1) were also distributed to numerous technological companies. The survey was created using Microsoft Forms with a good layout and picture for enticing involvement. The survey started with an outline of the research followed by a brief introduction; and used a simple, yet professional English language to enhance clarity for participants to understand each word used clearly. The survey also was anonymous with a statement that participants consent to use their responses for research purposes in academia. At the end of the survey, the respondents were allowed to participate in a raffle to win an S Group gift card by writing their email addresses. This raffle represents an appreciation for their efforts and cooperation during the interview. The survey consisted of 24 questions in total (Appendix 5). Twenty-two of these questions were related to the study. Additionally, one question was for consent requests, and the last one was for the raffle participation. Table 2 is a breakdown of the type of questions in the survey:

<table>
<thead>
<tr>
<th>Type</th>
<th>Sum</th>
<th>No.</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple Choice Questions (Single Answer)</td>
<td>12</td>
<td>Q1-8, Q13, Q15, Q20, Q23.</td>
<td>Direct questions with only one correct answer option or a scale, such as age or level of satisfaction. They were used to get background information about the participants as well as their experiences and perceptions regarding gamified recruitment.</td>
</tr>
<tr>
<td>Likert-Scale Questions</td>
<td>5</td>
<td>Q9, Q12, Q14, Q18, Q19</td>
<td>These are questions that measure the level of agreement or frequency, typically on a scale from &quot;strongly agree&quot; to &quot;strongly disagree&quot; or similar. The purpose of having a Likert-Scale questions was to collect feedback regarding the level of impact.</td>
</tr>
<tr>
<td>Multiple Choice Questions (Multiple Answers)</td>
<td>1</td>
<td>Q16</td>
<td>These allow for more than one answer to be correct, was used to measure the overall preference of gamification elements</td>
</tr>
</tbody>
</table>
Table 2: Survey Questions Breakdown

| Open-Ended Questions | Q10, Q11, Q17, Q21, Q22, Q24 | They were used to collect qualitative data on the participants’ side so that they can express themselves in fullness rather than choosing one among several options |

Response Rate and Representation: In this study, one survey was distributed to target participants in the Finnish job market, receiving 63 responses in total. While this provided valuable insights, it's important to note the potential for self-selection bias, as the respondents who chose to participate may not fully represent the diverse perspectives of the entire market. This limitation is acknowledged, and these results represent perceptions of a small sample of individuals in Finland, offering relevant but not exhaustive insights into the Finnish market.

3.2 Data Collection: Interview

A semi-structured interview took place with a professional game developer who played a central role in developing gamified applications for recruiting purposes. With the consent of the interviewee, the meeting was recorded then transcribed. The questions for the interview were self-prepared, consisting of 22 open-ended questions (Appendix 4) to provide qualitative data that would help answer the thesis questions. The interview also included several follow-up questions. The interview request was emailed using a cover letter (Appendix 2). The letter stated the purpose of the study, gave examples of some of the questions, and the expected duration of the interview to ensure transparency. The interview was done in person and lasted 2 hours.

3.3 Ethical Considerations

All survey responses were kept anonymous to protect the participants' privacy. The participants were told about the research purpose and the voluntary nature of their involvement. Under informed consent guidelines, the interview took place in a context that will keep their identities confidential.

3.4 Limitations

The research was limited to Finnish residents and a small number of industry professionals, which may not fully represent the global perspective on gamification in recruitment. Additionally, survey received 63 responses which may not be enough to draw definitive conclusions about the Finnish population but enough to gain some valuable insight.
4 Results

4.1 Online survey

4.1.1 Demographic Information

The demographic data collection started with Q1: "What is your age group?": The left chart in Figure 3 below shows that most of the survey participants are in the 25-34 age group (51% of the total). Followed by the 35-44 age group (22%) and then the 18-24 age group (21%). Participation declined in the 45-54 age group (5%) and (2%) for those under 18, and there were no participants in the 55-64 and 65 and older age groups (0%). (See Figure 3)

![Figure 3: Survey Q1 Age group & Q2 Gender](image)

The next question in the survey was Q2: "What is your gender?": The pie chart in Figure 3 above shows balanced gender results with the dominance of the male respondents (54%) compared to female respondents (44%). One individual represents the non-binary category, making up 2% of the total, and none of the respondents preferred not to disclose their gender.

**Question 3 asked, "Do you live in Finland?":** Most of the respondents confirmed that they live in Finland, 92.06%, while only 7.94% indicated that they do not live in Finland. The results serve the objective of the thesis, and the 7.94% suggests a limited international viewpoint for the research. (See Figure 4 on the next page).
Q4. "What is your highest level of education?": The right chart on Figure 4 above shows that the largest group consisting of 52% of the total hold at least a bachelor’s degree. 25% of the total holds a master’s degree. The participation of respondents with only high school education is relatively modest, with 8 respondents (13%), and those with professional school education and Doctoral degrees are minimal, each with 3 respondents (5%).

Q5, "In which industry do you currently work?" The most represented sector is Business, the Business sector showing the highest representation at 29%. Information Technology also has a significant presence with 22% of the respondents. Hospitality and Tourism (14%), Engineering (8%), education at 6%, and Transportation and Logistics at 5%, while other sectors like Manufacturing, Healthcare & Pharmaceuticals, Construction and Real Estate, Research, and Others are less represented, each constituting 3% of the total participants (See Figure 5).
It is good to note that the result for this demographic was condensed by adding subcategories of business (Such as HR, sales, marketing, customer service, finance & banking) into one main parameter called “Business.” This condensing method was also performed for the “education” parameter.

4.1.2 General Modern Perspective

Q6. Have you ever heard about gamification in recruitment?

The survey results show that 58.73% of the respondents are familiar with the concept of gamification in recruitment while 41.27% are not familiar with it (See left chart on Figure 6).

Q7. Have you ever been involved in a recruitment process that used gamification elements? & Q8. Is your current or previous employer using gamification recruitment?

The survey results show that only 12.7% participated in a gamified recruitment process, while 87.3% did not. The same results showed when asked if your current or previous employer uses gamified recruitment. (See right chart on Figure 6)

Figure 6: Survey Q6 Familiarity & Q7 Involvement in Recruitment Process & Q8 Employer using Gamified Recruitment
Q9. If yes, from your knowledge or experience, how effective is/was gamification in improving the recruitment process for your company?

![Q9: How effective is/was gamification in improving the recruitment process for your company?](image)

Figure 7: Survey Q9 Effect of Gamification in improving the recruiting process for the company?

Most respondents who work in organizations that implement gamification in their recruitment regard it positively. Specifically, 63% think that gamification is an effective tool for recruitment to varying degrees, while 38% have a neutral opinion on the matter. However, it is worth noting that none of the respondents think gamification is inadequate. (See Figure 9)

Q10. “What do you think are the possible benefits that gamification can bring to the recruitment process?"

Respondents consider gamification an innovative tool that can benefit job applications and talent-seeking companies. Table 3 provides a list of key points mentioned when asked about the benefits of gamified recruitment:

<table>
<thead>
<tr>
<th>Key Points</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhanced Engagement</td>
<td>&quot;It can make the process more fun and make the company seem more attractive&quot;, showing the potential of implementing gamification in a recruitment process to attract potential talents.</td>
</tr>
<tr>
<td>Better Evaluation of Skills</td>
<td>Responses like &quot;Problem-solving and ability to adapt&quot; and &quot;60min Test consisting of different ‘games’&quot; clearly indicate how gamification allows for a better evaluation of skills.</td>
</tr>
<tr>
<td><strong>Data Collection</strong></td>
<td>&quot;Easily collectible data; showing problem solving skills&quot; highlights the efficiency of gamification in gathering considerable insights into candidate skills and abilities.</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Equality and Fairness</strong></td>
<td>&quot;Equal opportunity test of skill for all applicants&quot;, points to how gamification could make hiring fairer.</td>
</tr>
<tr>
<td><strong>Candidate Experience</strong></td>
<td>&quot;Have the applicant in a more comfortable environment, see what kind of person he is in situations&quot;, shows that a gamified process can be an excellent way to learn about a candidate's soft skills and experience.</td>
</tr>
<tr>
<td><strong>Quality of hire</strong></td>
<td>&quot;More effective talent acquisition and better view on the applicant's weaknesses for both the employer and the applicants&quot;, indicates that gamification can improve the quality of recruitment.</td>
</tr>
<tr>
<td><strong>Real-Life Scenarios</strong></td>
<td>&quot;It would help the employer to assess the behavioral intelligence of future employees and determine the social integration level of the candidates in the workplace&quot;, showcasing how gamification can simulate real-life scenarios.</td>
</tr>
<tr>
<td><strong>Transparency and Insight:</strong></td>
<td>&quot;Gamification can lower the threshold in applying and engage the user to be more committed... It can also generate insight and understanding to both applicant and recruiter&quot;, suggesting benefits for both parties in the recruitment process.</td>
</tr>
<tr>
<td><strong>Diversity of Candidates:</strong></td>
<td>&quot;It gives a fair ground for everyone from different backgrounds and focuses more on their skills and abilities for the job role&quot;, indicates how gamification in recruitment relies more on an applicant’s skills and leads to diversity.</td>
</tr>
<tr>
<td><strong>Competitive Advantage:</strong></td>
<td>&quot;Gamification in recruitment can... help a company stand out in a competitive job market&quot;, implying gamification’s ability to give a competitive advantage to organizations that implement it in their recruitment system.</td>
</tr>
</tbody>
</table>

Table 3: Answers to Survey Q10 Potential Benefits of Gamification in Recruitment
Q11. Do you see any challenges, worries, or criticisms about using gamification in recruitment? Please describe briefly

Listed in Table 4 below are the five most emphasized concerns about gamification in recruitment, each accompanied by a relevant quote from the feedback:

<table>
<thead>
<tr>
<th>Key Points</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diversity and Bias</td>
<td>&quot;There might be a possibility of not having a diverse group of people applying/succeeding in the process because of background, age or other factors?&quot;, Showing some concerns about potential bias in the applicant pool.</td>
</tr>
<tr>
<td>Applicability to Different Fields:</td>
<td>&quot;I'm not sure if it would work in every field but I can see it would fit for example for Sales.&quot; This indicates doubts about gamification's ability to effectively apply across all industries and job types.</td>
</tr>
<tr>
<td>Perception of Professionalism</td>
<td>&quot;It sounds like not a highly professional step.&quot; This quote shows the concern that gamification might be perceived as unprofessional in the context of recruitment.</td>
</tr>
<tr>
<td>Cheating and Integrity Issues:</td>
<td>&quot;It might be cheated.&quot; This concern reflects the worry of cheating by applicants in gamified assessments.</td>
</tr>
<tr>
<td>Fairness and Bias Concerns:</td>
<td>&quot;Maybe some concerns regarding the fairness and potential bias in gamified assessment.&quot; This quote underlines worries about fairness and bias in a gamified recruitment process.</td>
</tr>
</tbody>
</table>

Table 4: Answers to Survey Q11 Possible Challenges and Concerns to Gamified Recruitment
Q12. How effective do you think gamification can be in improving the recruitment experience?

Most of the 63 respondents felt that gamification could be effective, whereby 38.10% considered it very effective, and 52.38% viewed it as somehow effective (90% in total), indicating a positive attitude towards gamification. However, a small proportion of people doubt its effectiveness – 7.94% somewhat ineffective and 1.59% very ineffective. None of the respondents believed that gamification made no difference in recruitment. (See the left chart on Figure 8).

Q13. Would you be more inclined to apply for a job that uses gamification in its recruitment process?

To this question, 57.14% responded positively to show that they are more inclined to apply for a job that uses gamified recruitment. 12.7% replied ‘no’, which shows indifference or doubt regarding the employment of gamification in hiring. However, many survey participants could not decide on this topic, as 30.16% answered ‘maybe.’ (See Figure 8).
Q14. How comfortable are you with using technology to engage with gamification elements in a recruitment process?

The questionnaire determined that 85.71% (Very and Somewhat comfortable) of the respondents feel comfortable using various technology tools to engage with gamification aspects in a recruitment process. On the other hand, only 4.76% percent of the respondents are very or somewhat uncomfortable, and only 9.52% are neutral. (See left chart on Figure 9 below)

![Figure 9: Q14 Comfort using Technology & Q15 Modernizing Recruitment](image)

Q15. Do you consider gamification to be an innovative approach to modernizing the recruitment process?

Close to three-quarters, 73.02% of the respondents think that gamification is innovative. However, only a tiny fraction of 6.35 % view gamification as un-innovative for recruitment. Finally, the remaining 20.63% replied with 'Maybe', implying a lack of information to form a definite opinion or uncertainty about the issue. (See right chart on Figure 9 above)

4.1.3 Efficiency of the Process - Gamification Elements

Q16. Preferred Gamification Elements: Which of the following gamification elements do you believe would be most effective in a recruitment process? & Q17. Briefly explain why you chose the gamification elements mentioned in the previous question. (See Figure 10 on the next page)

- **Interactive Challenges or Quizzes** are the most preferred, with 37 votes. They are seen as important ways for quantifying future employees' competencies and, therefore, emphasize skills assessment and problem-solving in a professional context. People see them as involving and consider them to focus on skills and knowledge.
- **Simulations and Role-playing** obtained 31 votes. They are preferred due to their ability to create true-to-life workplace situations that evaluate how the candidate will react when presented with a work problem. One respondent stated: "More engaging and putting people in role-play situations would help you assess their reactions toward several work-related problems". Furthermore, another said: "These can involve relevant scenarios to the job in question that the employer can assess.".

- **Points and Rewards System** received 29 votes. Participants regard the rewards system as motivational, with one respondent stating: "Reward systems can provide motivation".

- **Badges and Achievements** received 24 votes. They offer enjoyment as well as the feeling of achievement. Nevertheless, these tools are seen as mediocre when directly assessing skills, and there are better options like quizzes and simulations. One respondent stated: "They seem fun and make you enjoy the hiring process by providing badges and achievements for example".

- **Leaderboards** received the least preference among the major options, with 19 votes. Some people see them as healthy competition, while others believe they can harm candidates' morale and result in unnecessary stress. One respondent stated: "leaderboards introduce a competitive element" and another: "Except for the leaderboard because I think it would destroy the applicant's morale".

- Six respondents indicated they **did not know**, suggesting a lack of familiarity with these concepts, and one chose "**Other**" referring to: "Displaying progress “.

![Q16: Preferred Gamification Elements](image.png)

**Figure 10: Survey Q16 Preferred Gamification Elements**
4.1.4 Skill Assessment

Q18. In your opinion, compared to traditional recruiting method, how effective and efficient is gamified recruitment in assessing and selecting suitable candidates?

Surveyed opinions indicate that gamification is more efficient and effective to varying degrees, according to 56 respondents (88.89%), displaying a reasonable degree of confidence in the usefulness of gamification in assessing candidates. Four respondents (6.35%) see no difference between the two. Finally, three respondents (4.76%) consider gamified recruitment inefficient/ineffective to varying degrees. From these insights, we can see that most participants believe gamification is a potential way of improving recruitment processes (See Figure 11).

![Figure 11: Survey Q18 Skill Assessment & Identification of Talent](image)

4.1.5 Candidate Engagement

Q19. How does gamification impact candidate engagement and motivation during the recruitment process?

92.06% of the respondents believe that gamification increases candidate engagement during the recruitment process to varying degrees. However, only 4.76% of these perceive gamification negatively to varying degrees. At last, two respondents (3.17%) stated that there is no influence on engagement from adopting gamification. (See Figure 12 on the next page).
Figure 12: Survey Q19 Engagement & Motivation

4.1.6 Diversity and Inclusion

Q20. How do you believe that gamification in recruitment impacts diversity and inclusion?

Regarding the influence of gamification on diversity and inclusion in recruitment processes, 49.21% see that this impact is positive, indicating they believe gamification can increase possibilities for a more inclusive hiring environment. Only two respondents (3.17%) had a negative feeling. 7.94% do not see any effect of gamification on diversity and inclusion. However, it is important to note that there is substantial uncertainty concerning this topic, as 39.68% were unsure of the impact (See Figure 13).

Figure 13: Survey Q20 Diversity & Inclusion
Q21. Kindly elaborate on your previous answer. (The effect of gamification in recruitment on diversity and inclusion)

Table 5 below summarizes the results of this question:

<table>
<thead>
<tr>
<th>Key points</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attracting Unqualified Candidates</td>
<td>One respondent expressed: &quot;All the lazy people would get attracted to such jobs which will show negatively company in general, and the professionals would probably skip such jobs,&quot; implying a concern that gamification might attract fewer professional candidates.</td>
</tr>
<tr>
<td>Dependence on Execution</td>
<td>One respondent explains that the effect of gamification depends on its execution; &quot;If done well, it can impact it positively, but could also have a negative effect if not done well and with enough thought behind it.&quot;</td>
</tr>
<tr>
<td>Objective Nature</td>
<td>Some respondents believe in the objective nature of gamification, with one saying, &quot;The concept itself is not discriminatory... The only thing that matters to the ranking algorithm is your skills.&quot;</td>
</tr>
<tr>
<td>Engagement &amp; diversity</td>
<td>Some respondents are optimistic about gamification’s potential in recruitment, with statements like: &quot;[it] can become more engaging and accessible to a wider range of applicants.&quot;</td>
</tr>
<tr>
<td>Bias and Accessibility Concerns</td>
<td>There are concerns about bias and accessibility: &quot;Depending on the element and how they are programmed. Some aspects could still be biased as they were programmed according to male/western/etc. norms.&quot;. another: &quot;It would entirely depend on factors like if there are individuals who may have disabilities etc.&quot;</td>
</tr>
<tr>
<td>Anonymity and Fairness</td>
<td>One respondent said: &quot;If recruiter uses some sort of anonymization, it will affect positively.&quot;, showcasing the importance anonymity could have in this context.</td>
</tr>
<tr>
<td>Narrowing the Candidate Pool</td>
<td>Some respondents were worried about the candidate pool getting smaller: &quot;I fear that it makes the candidate pool smaller... A lot of people do not apply to these jobs because they are scared of the video interviews.&quot;</td>
</tr>
<tr>
<td>No Effect or Uncertainty:</td>
<td>Many responses indicate no perceived impact or uncertainty like &quot;Doesn't affect&quot; and &quot;I don't know,&quot; either because of neutrality or lack of knowledge.</td>
</tr>
</tbody>
</table>

Table 5: Survey Q21 Effect of gamification on diversity & inclusion
Q22. If you can change something about the recruiting process, what would it be? Please describe (optional):

Individuals from the survey suggested implementing task-based interviews to align more closely with job requirements. The respondents emphasized job description accuracy and transparency regarding tasks and salary from the start, eliminating tedious cover letters and improving feedback mechanisms. There's a call for more efficient, shorter, and focused processes, with less reliance on formal qualifications and more emphasis on practical, on-the-job learning abilities.

There's also a recommendation for more streamlined communication and innovative methods in recruitment. Another suggestion from the respondents was "Automate initial screening to save time and resources." Some respondents emphasize the importance of removing bias, suggesting "Removing photos, names and nationality" from applications and focusing on team dynamics and interactive skills during the recruitment process.

4.2 Interview Results

4.2.1 Role of Software Developer

Background: The game developer (Will be referred to as GD) has a technological background and interest in games from an early age. GD was involved in the development of two gamified recruitment assessment tests. The first included programming skills challenges and puzzles in a virtual office environment that measured programming skills while under pressure. The game had different mechanics to measure critical thinking, problem-solving, and creativity, such as increasing difficulty and limited resources. The game does not only evaluate the candidate's skills, but the tasks they need to do in the game represent the actual job responsibility of the role, and it is in a virtual tech office environment to introduce you to the company's culture and work style. GD emphasized that the game not only assesses the candidate's skills but also mirrors actual job responsibilities. It serves as an introduction to the company's culture and work style. The second game had the same elements, but it was designed for cybersecurity challenges.

When asked if the process is efficient? GD replied with confidence, adding, "If you are unable to do these tasks, which are similar to the company's daily tasks, you are probably not the best fit."

When asked whether it is engaging or stressful, GD gave an example from his own experiences that programmers find coding challenges exciting, and from this perspective, if a person enjoys their experience with these problems while playing, such a person may fit this profession well. GD believes that it greatly boosts engagement and reduces the stress of job applications.
When asked about the modern perspective of Finnish individuals, GD showed a positive view, stating that Finland is a technological country, and it is no wonder that this topic attracts attention, but there is still room for improvement.

GD believes that gamification can greatly promote diversity and inclusivity. "The game focuses on your own skills, so you are getting assessed for the right thing." Regarding its application across industries, GD says, "It can be applied across many industries, but the effectiveness varies depending on the role." Emphasizes the need for improvement. GD also regards the role of the developer as crucial as there is a need to create something engaging, fun, inclusive, and relevant to the job role.

According to GD, gamification elements such as real-life scenarios, problem-solving tasks, and simulations are the best at attracting and identifying skills. GD added: "When recruiters find the right person for the job quickly, they reduce the time to hire and the resources usually spent on traditional screening methods." Justifying the impact. In GD’s experience, gamification has helped reduce the time to hire for the organization. However, GD emphasized that it is not magic as there are other factors that can affect the time to hire, such as the marketing for the posting, the size of the company, and whether the job vacancy offers a salary or not.

According to GD, a gamified recruitment system takes effort and requires close collaboration between HR and psychologists. Figure 14 shows the process as described by GD.

![Figure 14: Game Design Process](image-url)
GD further explained that in order to succeed in the implementation, it is necessary to secure the applicants' data in compliance with Data Protection Regulations such as GDPR. When asked what the key metrics for success are? GD listed the need to measure the quality of hire, diversity of the pool, time-to-hire, and candidate feedback.

The biggest challenge, according to GD, is the skepticism regarding the topic and ensuring the game is inclusive and free from bias. When asked about the fairness of the process, GD responded, "We do tests with diverse groups to make sure it is accessible and fair," and "This is something I often struggle with as it requires continuous testing and iteration." As for cheating and manipulation concerns, GD stated that there are anti-cheating techniques to ensure the integrity of the recruitment process. GD believes that gamification in recruitment will increase in popularity thanks to the rise of AI, which could lead to exciting integrations for personalized assessments while maintaining human-centered decisions and ensuring fairness.

4.3 Additional layers of Analysis

Several aspects of the respondents, such as age, gender, and industry, were analyzed using three categories of the respondents' modern perspective in the survey: 1. The level of familiarity with the topic; 2. The overall positive perception regarding the effectiveness of gamified recruitment, 3. The inclination towards participating in a gamified recruitment. The analysis was made to understand how different groups view the gamified recruitment process.

4.3.1 Gender

Males show higher familiarity, perception of effectiveness, and inclination towards gamified recruitment compared to females. This suggests that while both genders are generally open to gamification in recruitment, males may be more persuaded by its benefits (See Figure 15)

![Gender Analysis](image-url)

Figure 15: Gender Analysis
4.3.2 Age

The survey on gamification in recruitment shows mixed results: younger adults (18-24) are enthusiastic yet less familiar; those 25-34 acknowledge its effectiveness but are hesitant; adults 35-44, despite moderate familiarity, are very receptive; and the 45-54 group, fully aware, are selective about its effectiveness but fully open to its use. Overall, age affects familiarity but not necessarily the eagerness to adopt gamification (See Figure 16).

![Age Groups Analysis](image)

**Figure 16: Age Groups Analysis**

4.3.3 Industry

The survey across sectors shows divergent trends: Business and IT professionals are relatively familiar with and inclined towards gamification in recruitment. Educators familiar with it but fully inclined to embrace it. Engineers, although not widely familiar, unanimously endorse its effectiveness. Hospitality and Tourism have the lowest familiarity but high enthusiasm among those aware. (See Figure 17)

![Industry Analysis](image)

**Figure 17: Industry Analysis**
The data shows that familiarity with gamification in recruitment does not necessarily predict a positive perception of its effectiveness or an inclination to use it across different industries. Sectors with low familiarity, like Engineering and Hospitality, may still show high support for its effectiveness and use. Similarly, high-awareness sectors do not always result in positive perceptions and inclinations.

4.3.4 Technology Use

According to the chart in Figure 18:

- **Comfortable Group**: 63% are familiar with gamified recruitment, a high 96% view it as effective, and 94% are inclined to use it.

- **Uncomfortable Group**: Of the 3 people, 67% are familiar, but only 33% see it as effective, and none are inclined to use it.

- **Neutral Group**: From 6 people, only 17% are familiar, 67% find it effective, and the same proportion (67%) are inclined to use it.

![Comfort in Using Technology](image)

**Figure 18: Comfort in Using Technology**

This suggests that comfort with technology correlates with a higher inclination and perception of effectiveness regarding gamified recruitment, except for familiarity. Comfort with technology, therefore, appears to be a key factor influencing the acceptance of gamification in recruitment.
5 Discussion

5.1 Summary of Results

5.1.1 Demographic

Gamification in recruitment works well with the young, technology-oriented, and professionally inclined Finns, especially the youth between the ages of 25 and 34 and those working in IT and business sectors. Respondents also have a high education level, hinting towards a potential appreciation for innovative recruitment techniques such as gamification as it may conform to their expectations on engagement and challenges in their workplace. Although the survey has many Finnish participants, indicating relevance to the local context, several international parties also answered.

5.1.2 Modern Perspective

In general, the data indicated that while there is a substantial awareness of gamification in recruitment, it has not yet been widely experienced or adopted. Those who are familiar with it or have encountered it in practice tend to view it positively, believing that it can enhance the recruitment process by making it more engaging and providing a better assessment of candidates’ skills. Despite this, there are concerns about the potential for bias, its applicability across different job sectors, and its perception as unprofessional.

The overall view towards gamification in recruitment is positive, with most respondents open to the idea and considering it an innovative way to modernize hiring processes. This suggests a readiness in the workforce to embrace more interactive and technologically advanced methods of recruitment. However, the implementation of such strategies would need to address the expressed concerns to ensure fairness, professional integrity, and broad applicability.

5.1.3 Gamification Elements: Efficiency of the Process

The respondents highlighted that gamified recruitment should be inclusive, non-stressful, and job-relevant. Specifically, there is a significant leaning toward types of assessment that directly test skills and problem-solving capabilities (such as quizzes and simulations) compared to measures that could lead to excessive pressures and unhealthy competition (i.e., leaderboards). Some see competitive elements such as leaderboards affecting their physical health and self-esteem. Along with interactive challenges and simulations (which are good for assessing direct relevance to job skills and engagement), points, rewards, and achievements are also praised for their use to enhance motivation and a sense of accomplishment.
5.1.4 Skill Assessment

Overall, the survey data showed a widespread perception that gamified recruitment is more efficient than conventional approaches, suggesting an overall positive faith in it as an improvement over existing hiring practices, with few people doubting its benefits.

5.1.5 Candidate Engagement

The survey results showed that most respondents see gamification as a positive thing for recruitment, as 90% of the respondents agree that gamified assessments enhance engagement within the recruitment process. This suggests a broad optimism about the value of gamification in attracting and engaging applicants.

5.1.6 Diversity & Inclusion

Responses regarding the impact of gamification on diversity and inclusion in recruitment are mixed. Many respondents see it could attract a diverse pool of candidates since it focuses more on skills and competencies instead of demographic data. However, the success of gamification is dependent on its execution; poorly developed applications may only end up creating bias. The respondents also raised some concerns, including the possibility that gamification could attract fewer professional applicants or intimidate people as opposed to non-traditional recruitment practices, narrowing the pool of prospective candidates. Nevertheless, gamification is viewed as a transformative tool for recruiting diverse employees if implemented effectively.

5.1.7 Developer's Role:

The game developer's insights reflect optimism about gamification in recruitment, highlighting its ability to engage candidates and support efficient skill assessments. While effective, its impact varies by industry and requires thoughtful and lengthy game design. Challenges include skepticism and the need for constant iteration and maintenance to ensure inclusivity and fairness. The integration of AI is anticipated to further refine and personalize the recruitment process.

5.1.8 Optional Question

The answers from the optional Q22. “If you can change one thing about the traditional recruitment process, what would it be?” provided concern regarding the traditional methods of recruiting to which gamification in recruitment can offer tangible solutions such as increasing engagement, simplifying the process, making it inclusive, and providing constructive feedback. One respondent mentioned the need to have team-based challenges, explaining, “Because nowadays most people don’t have the interactive skills.” Gamification has the potential to meet these preferences.
6 Conclusion

6.1 Restatement of the problem

This research reviews how gamification could impact the effectiveness and efficiency of a recruitment strategy. The problem centers on understanding how gamification can increase candidates' interest, improve the accuracy of skill assessments, and promote diversity and inclusion in the Finnish labor market. This study aims to assess the opinions of respondents of the survey and game developers regarding this innovative method and the impact of that technology.

6.2 Answering Research Questions

6.2.1 Auxiliary Questions

Modern Perspective on Gamification in Recruitment in Finland:
- Many Finnish professionals, especially the young age group in the IT and business industries, are positively interested in gamified recruitment environments.
- Increasing interest in gamified recruitment due to its engaging and unique experience.
- Finland's tech-savvy and innovative culture is conducive to gamification adoption.
- Room for improvement and broader application across different industries.

Impact of Gamification Elements on Recruitment Efficiency:
- Enhances the recruitment process by making it more engaging and interactive.
- Provides a more accurate assessment of candidates' skills through simulations and real-life scenarios.
- Reduces the time to hire and resources used in traditional screening methods.

Skill Assessments and Identification of Suitable Candidates:
- Gamification offers an accurate and holistic view of candidates' skills and potential.
- Enables testing of problem-solving, critical thinking, and ability to work under pressure.
- May not fully cover soft skills or cultural fit, requiring careful design to avoid biases.

Influence of Gamification on Candidate Engagement:
- Significantly boosts engagement by providing a fun and enjoyable experience.
- Reduces stress associated with job applications.
- Encourages active participation and motivation to solve challenges.

Impact of Gamification on Diversity and Inclusivity:
- Potentially enhances diversity and inclusivity by focusing on skills and performance, reducing biases.
- Needs to be accessible and fair to all candidates, regardless of their gaming experience or background.
- Concerns about potential biases if not properly designed and tested.

**Role of Software Developers in Gamified Recruitment Systems:**
- Crucial role in creating engaging, fair, inclusive, and relevant systems.
- Responsible for the development, testing, and iteration of gamified elements.
- Work alongside HR and psychologists to align games with job requirements and audience.

6.2.2 Main Research Question

For the main research question, "What are the key elements of successful gamification strategies in the Finnish job market?" the survey and interview data from the Finnish job market indicated that successful gamification in recruitment relies on creating an experience that is not only engaging but also inclusive and stress-free. The ability to accurately assess a wide range of skills, including problem-solving, critical thinking, and creativity, can be accomplished with the use of challenges, rewards systems, role-playing, and simulations in game design. These elements tend to attract and engage candidates the most, but it is important to be mindful of elements like leaderboards, which can add to candidate stress.

Ensuring that the gamification approach is inclusive and fair for all candidates, regardless of their background or gaming experience, is vital. This involves careful design to avoid biases and ensure accessibility. Additionally, the gamification strategy should be closely aligned with the specific requirements of the job. This ensures that the skills and abilities being assessed are directly relevant to the position. Also, integrating team-challenge mechanics can help assess the interaction of candidates in a team, which is a vital skill to have nowadays.

Also, Successful implementation requires collaboration between software developers, HR professionals, and psychologists to ensure that the gamified elements are effective in assessing the right candidate traits and behaviors. Finally, the gamification strategy should be flexible and adaptable, with ongoing evaluation and improvement based on feedback and changing job market needs.
6.3 Alignment with SDT

Although not directly addressed, based on the general understanding of the SDT principles along with the results of the survey and interview:

Using engaging, interactive designs in gamification enhances candidates' sense of autonomy, allowing them to participate actively and make choices in a self-directed manner. As one respondent stated, "It can make the process more engaging and enjoyable for candidates, increasing their motivation to participate.") Another said: "The mentioned elements can very subtly be embedded to "traditional" recruitment process and digital ATS-systems. They can bring concrete benefits for the user in the form of personal development and having a sense of control in the process". (The respondent referred to these elements: Interactive challenges, points and rewards system, simulations and role-playing, & displaying progression). These elements can serve as extrinsic motivators by creating competition and offering tangible incentives.

Accurate skill assessments through gamification address the need for competence, providing candidates with a platform to demonstrate their abilities in a realistic context, thereby boosting their sense of achievement. One respondent explained that simulations or scenarios give a better evaluation of capabilities and can appeal to people motivated by competition, achievement, or the opportunity to demonstrate their skills in a unique way. This aligns with intrinsic motivation. These gamification aspects enhance candidates' enjoyment and satisfaction derived from the task rather than external rewards.

The emphasis on fairness and inclusivity in the gamification process aligns with the SDT’s concept of relatedness. It ensures all candidates feel valued and connected, fostering a sense of belonging. One respondent stated that gamification has "a positive impact on diversity and inclusion in the workplace." Another said, "it will provide everyone a fair chance to succeed irrespective of gender, race or religion," the game developer stated, "It can greatly enhance diversity and inclusivity."

The survey and interview data suggest that successful gamification in recruitment ideally incorporates a balance of intrinsic and extrinsic motivators: intrinsic motivators to enhance the overall experience and satisfaction and extrinsic motivators to encourage participation and performance through competition and rewards.
### 6.4 Meeting Hypotheses

Taking into consideration the six main parts of the study, the breakdown of the hypothesis evaluations is listed on Table 6 below:

<table>
<thead>
<tr>
<th>No.</th>
<th>Hypothesis</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Positive view: engages and attracts candidates and simplifies the screening process.</td>
<td>Supported. The interview and survey result show positive view on the efficiency of gamification in assessing candidates, and the efforts of developers in making engaging and fair scenarios.</td>
</tr>
<tr>
<td>H2</td>
<td>Elements like skill challenges and leaderboards improve screening efficiency.</td>
<td>Supported to an extent. The results show that features like real-time problem-solving tasks facilitate the recruitment process. However, the impact of competitive elements like leaderboards on candidates' well-being is a concern.</td>
</tr>
<tr>
<td>H3</td>
<td>Leads to more accurate skill assessments and better identification of suitable candidates.</td>
<td>The hypothesis is supported. Gamified recruitment processes, through realistic job scenario simulation, create a more accurate and holistic picture of candidate's skills.</td>
</tr>
<tr>
<td>H4</td>
<td>Enhances engagement during the screening process</td>
<td>The hypothesis is supported. Gamification elements boost candidate engagement significantly, particularly those directly relevant to job skills.</td>
</tr>
<tr>
<td>H5</td>
<td>Positively impacts diversity and inclusion by minimizing biases and attracting a more diverse candidate pool.</td>
<td>Partially supported. Data from this research indicated that gamified recruitment processes can reduce biases and increase diversity in candidatures. However, such effectiveness is based on a properly implemented and designed process to avoid biases or unease among candidates.</td>
</tr>
</tbody>
</table>
6.5 Suggestions for Future Research

Future research should take the concept of gamification in recruitment beyond the Finnish job market to cover more industries and diverse global contexts. Moreover, a long-term study would help dig into the long-term effects of these strategies on organizational outcomes and employee performance. For instance, tracking the careers of candidates recruited through gamified processes would help comprehend the correlation between their performance in gamified assessments and their real-life job performance.
7 References


Appendices

Appendix 1: Cover Letter – Online Survey Participation Request

To whom it may concern

My name is Sawsan Yas, and I am a third-year BBA student at Haaga-Helia University of Applied Sciences specializing in human resources and leadership. I am writing my bachelor's thesis and aim to determine the effectiveness of gamified recruitment in the Finnish job market. I am gathering data through an online questionnaire, and I would be happy if the employees at [Company Name] would be among the respondents.

Gamified recruitment is an innovative approach to the hiring process that uses game-like elements and mechanics in non-gaming contexts. In recruitment, gamification makes hiring more engaging, interactive, and effective.

Upon completion of the research, the results will be sent to your company and help you achieve the following:

- Gain an understanding of how Finnish individuals perceive gamification in recruitment.
- Learn about the benefits and challenges of gamified recruitment.
- What gamification elements are viewed as effective in terms of candidate engagement, skill assessment, and talent identification.
- If the company is using gamification in recruitment, the research may provide comparative data, allowing it to compare its methods and practices with industry norms and trends.

The questionnaire is anonymous, and there will not be any company-specific results addressed in the thesis. However, your company's name will be written as one of the participants in the research. Please let me know if you wish for your company to stay completely anonymous. The questionnaire will remain open for three weeks, and the link can be emailed to respondents.

Should you have any questions, please don't hesitate to ask me.

[Link to the survey]

Thank you in advance!

Kind Regards

Sawsan Yas
Appendix 2: Cover Letter – Request for Interview

Dear [Title and Name]

In reference to our talk the previous day, I am requesting an interview to talk about the topic of my thesis: Gamification in Recruitment. I would be glad to gain insight from your experience in developing gamified assessments. My goal is to determine the effectiveness of gamified recruitment in the Finnish job market and the role of software developers in designing, implementing, and evaluating gamified assessments.

The questions in the interview will be open-ended, and the layout of the questions is as follows:

- Background information about your experience
- Questions regarding the game design process, elements of gamification, accuracy in skill assessments, evaluation methods, biases, data privacy, and ethical concerns.

An example of one of the questions: "Could you discuss the design process behind these gamified recruitment systems? How do you ensure they align with specific job requirements?"

Additionally, as discussed, your and your company's name will be kept anonymous. Kindly suggest a time and place for the interview.

Should you have any questions, please don't hesitate to ask me.

Many thanks for considering my request.

Best regards

Sawsan Yas
Appendix 3: Social Media Post

Hello!

I am a third-year BBA student at Haaga-Helia University of Applied Sciences, and I specialise in human resources and leadership. I am currently writing my bachelor’s thesis and my goal is to determine the effectiveness of gamified recruitment in the Finnish job market. I am gathering data through an online questionnaire, and I would be very glad if you can participate to the survey.

The questionnaire is anonymous and takes about 3-5 minutes to complete. As a form of appreciation for completing the survey, you can participate in a raffle to win 50€ S Group gift card. However, the data will be analyzed, and any non-serious answers will be removed, and the participant would be excluded from the raffle.

Gamified recruitment is an innovative approach to the hiring process that uses game-like elements and mechanics in non-gaming contexts. In recruitment, gamification is used to make the hiring process more engaging, interactive, and effective.

Thanks in advance!

Appendix 4: Interview with Game Developer

1. Thank you for taking the time to join this interview today. Let's start with a bit of an introduction. As I have mentioned before, I am writing my thesis about gamification in recruitment, and the goal is to determine the effectiveness of the gamified recruiting process in the Finnish job market. (Name) referred me to you as you have a background in this field. Can you tell me a bit about your general background and how you got into this topic?
2. Can you tell me about the game you created?
3. That is very interesting. Can you explain how does it exactly do that? I mean, assessing their programming knowledge is understandable to me, but how can you make a game that tests someone's ability to work under pressure and their problem-solving skills?
4. Is it efficient in assessing the skills and selecting the best fit?
5. Is it engaging? Or is it stressing?
6. What is the modern perspective on gamification in recruitment in Finland?
7. What about the impact of gamification on diversity and inclusivity in recruitment?
8. You mention being a coder, and coders love challenges. What if you are a doctor? A teacher? Do you think this method would work across other industries other than IT?

9. Could you elaborate on the role of software developers in designing, implementing, and evaluating these systems?

10. Can you tell me a little bit about the gamification elements and their impact on the recruitment process?

11. Does gamified recruitment reduce the time to hire and costs?

12. Can you tell me what is the impact on candidate engagement?

13. Are suitable candidates always selected in gamified recruitment?

14. Why not always?

15. Speaking of design, what is the design process behind gamified recruitment systems? And how do you ensure they align with specific job requirements?

16. In terms of data privacy and ethical considerations, how are these handled in this context?

17. How do you measure the success or effectiveness of a gamified recruitment system?

18. What challenges have you faced in implementing these systems in Finland?

19. How do you see gamified recruitment evolving in Finland?

20. Do gamified recruitment favor candidates who are more familiar with gaming? Or younger?

21. How do you address concerns regarding the potential for cheating or manipulation within these games?

22. Finally, how do you foresee integrating emerging technologies like AI and machine learning into gamified recruitment while maintaining human-centered decision-making?

Appendix 5: Survey questions

Gamified Recruitment

This survey is a part of a thesis research project done by Sawsan Yas, a student at Haaga-Helia University of Applied Sciences. Its purpose is to collect valuable insights and opinions regarding the integration of game-like elements into the recruitment process. The survey takes about 3-5 minutes, and it is anonymous. You can include your E-mail at the end to enter a raffle for a chance to win a 50€ S Group gift card. Thank you for dedicating your time and sharing your valuable insights, which will greatly contribute to this thesis.

Short description about the topic:
Gamification in recruitment means incorporating game-like elements into the recruitment process. Those elements help determine candidates' skills, level of engagement, and suitability for a job.

1. What is your age group? * (required)
   - Under 18
- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65 and older

2. What is your gender? *
   - Female
   - Male
   - Non-binary
   - Prefer not to say.

3. Do you live in Finland? *
   - Yes
   - No

4. What is your highest level of education? *
   - High school
   - Professional school
   - Bachelor's degree
   - Master's degree
   - Doctoral degree

5. In which industry do you currently work? *
   - Engineering
   - Manufacturing
   - HR
   - Marketing
   - Healthcare and Pharmaceuticals
   - Education
   - Retail and E-commerce
   - Agriculture
   - Construction and Real Estate
   - Hospitality and Tourism
   - Transportation and Logistics
   - Finance and Banking
   - Information Technology
6. Are you familiar with the concept of gamification in recruitment? (Integrating game-like elements into the hiring process to assess candidates' skills, engagement, and suitability for a job) *
   - Yes
   - No

7. Have you ever participated in a recruitment process that incorporated gamification elements? *
   - Yes
   - No

8. Is your current or previous employer utilizing gamification in their recruitment process? *
   - Yes
   - No

9. If yes, from your knowledge or experience, how effective has gamification been in improving the recruitment process for your company?
   - Very effective
   - Somewhat effective
   - Neutral
   - Somewhat ineffective
   - Very ineffective

10. In your opinion, what potential benefits can gamification bring to the recruitment process? *

11. Are there any challenges, concerns, or criticisms you have regarding the use of gamification in recruitment? Please describe briefly. *

12. How effective do you think gamification can be in enhancing the recruitment experience? *
   - Very effective
   - Somewhat effective
   - No Impact
   - Somewhat ineffective
   - Very ineffective

13. Would you be more inclined to apply for a job that uses gamification in its recruitment process? *
14. How comfortable are you with using technology to engage with gamification elements in a recruitment process? *
   - Very comfortable
   - Somewhat comfortable
   - Neutral
   - Somewhat uncomfortable
   - Very uncomfortable

15. Do you consider gamification to be an innovative approach to modernizing the recruitment process? *
   - Yes
   - No
   - Maybe

16. Preferred Gamification Elements: Which of the following gamification elements do you believe would be most effective in a recruitment process? (Select all that apply) *
   - Points and rewards system
   - Leaderboards
   - Badges and achievements
   - Simulations and role-playing
   - Interactive challenges or quizzes
   - I don’t know.

17. Briefly explain why you chose the gamification elements mentioned in the previous question.

18. In your opinion, compared to traditional recruiting method, how effective and efficient is gamified recruitment in assessing and selecting suitable candidates? *
   - More Efficient and Effective
   - Somewhat More Efficient and Effective
   - No Difference
   - Somewhat Less Efficient and Effective
   - Less Efficient and Effective

19. In your opinion, how does gamification impact candidate engagement and interaction during the recruitment process? *
- Strongly Increases Engagement
- Increases Engagement
- No Impact
- Decreases Engagement
- Strongly Decreases Engagement

20. How do you believe that gamification in recruitment impacts diversity and inclusion? *
   - Positively
   - Negatively
   - No impact
   - I don't know.

21. Kindly elaborate on your previous answer. (The effect of gamification in recruitment on diversity and inclusion)

22. If you can change something about the recruiting process, what would it be? Please describe (optional)

23. By submitting this survey, you consent to the use of your responses for academic research purposes related to the thesis on gamification in recruitment. *
   - Yes
   - No

24. Write your personal E-mail here to enter a raffle for a chance to win 50€ S group gift card