

Adopting gamified assessment tools in hiring practices

A qualitative study exploring why organizations invest in gamified assessment tools and the experienced outcome of implementation

ABSTRACT

Gamified assessment tools are a novel assessment phenomenon that is adopted by organizations. Still, academics are stressing a lack of established research on their level of validity. Studies within the field of gamification in HRM and assessment are in a nascent state, predominantly argumentative and suggestive in terms of the tool and its usefulness. Therefore, the purpose of this study is to explore the underlying factors influencing the adoption of this tool, and the following experienced outcome of implementation. The study is of a qualitative multiple-case study design, and builds on 13 interviews with representatives working in Human Resource Management in their respective organizations. The study finds that the decision to adopt a gamified assessment tool is influenced by environmental, organizational and innovation-inherent factors. Societal trends and technological change together with candidate demographics are the external governing factors, while the internal ones are managers support and the organization's culture, and whereas the perceived gains of the tool itself are thought to be valuable in generating a positive candidate experience and projecting a positive brand image.

Keywords: Gamification, Selection, Assessment, Innovation, Adoption

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I. DEFINITIONS

Gamification: *“The use of game design elements in non-game contexts”* (Deterding, Dixon, Khaled and Nacke, 2011).

Recruitment: *“The practices and activities carried out by the organization with the primary purpose of identifying and attracting potential employees”* (Barber, 1998).

Selection: Conducting assessments of candidates, and based on the results predicting future work performance (Armstrong, Landers and Collmus, 2016a).

Assessment method: A method to assess a candidate, measuring for example knowledge and skills, motivation, personality or cognitive ability (Andersson, Hallén and Smith, 2016).

Gamified assessment tool: A digital assessment method including game design elements, such as simulations, badges, leaderboards, storylines, graphics and feedback mechanisms.

Innovation: *“The first or early use of an idea by one of a set of organizations with similar goals”* (Becker and Whisler, 1967).

Supplier: An organization providing a gamified assessment tool, used by the respondent organization.

Adopter: An organization who has implemented a gamified tool.

Validity: How well an assessment method is in making a prediction of a criterion, thus whether a method is measuring what is intended to be measured (Andersson et al., 2016).

Face validity: The face validity of a test is about the candidate’s perception and subjective experience of the test, its fairness, and how relevant it is perceived to be in relation to the job (Smither, Reilly, Millsap, Pearlman and Stoffey 1993; Andersson et al., 2016).

Type A tool: A tool which in this study is a pure assessment test.

Type B tool: A tool which in this study both functions as an assessment tool and recruitment channel.

1. INTRODUCTION

This introduction gives an understanding about the research topic and the current situation and complication, from which the research question is derived. The purpose of the study follows and the section ends with some delimitations.

1.1. The Storyline

1.1.1. Situation

Recruiting the right people is important for every organization, but the task is easier said than done. Attracting and retaining top employees has been among businesses' main concern since long (Cappelli, 2008), and not only are the employees considered to be the most valuable asset to many organizations, but also the most unique one (Pamenter, 1999). Human resources and the implementation of an effective hiring process is supposed to increase the possibility to gain a sustainable competitive advantage (Lado and Wilson, 1994; Sangeetha, 2010).

With the technological advancements in society, and the increasing importance of human resources from a strategic perspective, innovative methods have made their way into the area of recruitment and selection (Deros and De Fruyt, 2016). One of the recent ideas within the domain of hiring practices that can be seen to be adopted in the marketplace is the idea of gamification, often defined as *"the use of design elements in non-game contexts"* (Deterding, Dixon, Khaled and Nacke, 2011). Organizations implement gamified assessment tests as a means to assess the candidates. The test varies in its construction, and could for instance be in the form of near-like game experience, with several situations through which the candidate is assessed. At the end of the game, the applicant can receive a summary of her or his personality profile based on the behavior throughout the game. (Armstrong, Landers and Collmus, 2016a)

Gamified assessment tools are supposed to be valuable in several ways. For example, the tool is suggested to improve an organization's image as well as improving the candidates' reaction to the test (Nikolaou and Foti, 2018). Moreover, academics express how it can add value by delivering an engaging and fun experience (Ferrell, Carpenter, Vaughn, Dudley and Goodman, 2016). Also, Armstrong et al. (2016a) imply that gamified assessments could increase the quality of the assessment data, as the test is expressed to be more difficult to fake in comparison to a traditional assessment method. Moreover, the same researchers propose a gamified tool to be a superior method in eliciting the candidate's behavior, as opposed to questionnaire-constructed tests.

1.1.2. Complication

While there are indications of positive effects from the adoption of gamification as a means to assess a candidate (Nikolaou and Foti, 2018; Ferrell et al., 2016), reviewing the state of the literature reveals how existing research is predominantly of a theoretical and argumentative nature (Deros and De Fruyt, 2016; Armstrong, Ferrell, Collmus and Landers, 2016b; Chamorro-Premuzic, Akhtar, Winsborough and Sherman, 2017). Moreover, academics uphold how the studies on gamification in the field of Human Resource Management (from here on referred to as HRM), generally are of a quantitative nature (Hamari, Koivisto and Sarsa, 2014; Ferreira, Araújo, Fernandes and Miguel, 2017), and address that more qualitative research is necessary (Chapman and Mayers, 2015).

The flaws of the theoretical field do not end there. While there are studies on the gamified assessment tool, the review of current literature has shown that the dominant material contains conference papers, further supported by Seaborn and Fels (2015). The peer-reviewed literature on gamification within HRM mainly pertains to education and learning (Hamari et al., 2014). As if this would not be enough support for a study on gamified assessment methods, most of the conducted research lends support from psychology. Within this domain, researchers seek to understand how gamification provides desired outcomes, by reviewing individual parameters and their relation to the gamified method (Chow and Chapman, 2013; Hamari et al., 2014; Callan, Bauer and Landers, 2015, Ferrell et al., 2016). Lastly, yet an important fact, researchers call for more validity research (Ryan and Ployhart, 2014, Ferrell et al., 2016; Chamorro-Premuzic et al., 2017, Deros and De Fruyt, 2016), and an understanding of whether the gamified assessment tool is a good way of assessing candidates altogether.

While researchers are stressing the need for more empirical research within the area of assessment (Ryan and Ployhart, 2014; Ferrell et al., 2016; Armstrong et al., 2016b; Chamorro-Premuzic et al., 2017), more argumentative papers are being written. This complicates the situation as the market continues to adopt the gamified assessment tool. So far, little is known about the reasons and underlying forces influencing organizations to adopt such tools. Theory on the choice of traditional selection methods does not give a sufficient answer to why organizations take on this novel tool, and theory related to the adoption of innovative HRM practices lacks research on assessment tools. Moreover, hiring practices have been found to be different in terms of forces influencing their adoption (Parry and Wilson, 2009), calling for an exploration of the adoption of the gamified assessment tool. Lastly, how the tool is delivering in terms of outcomes is yet to a large extent unidentified.

1.1.3. Research Question

With the situation and complication at hand, this study aims at answering the following research question:

Why do organizations decide to invest in gamified assessment tools, and what is the experienced outcome of implementation?

1.2. Purpose of the Study

By exploring why organizations decide to invest in gamified assessment tools, and the experienced outcome of implementation, the study firstly adds value in terms of lowering the degree of incompleteness which is evident in the research field of gamified assessment tools. Moreover, by taking a holistic viewpoint, this study will shed light and understanding on both obvious, and less apparent reasons behind adoption. Secondly, the study has managerial value. While academia suggests several benefits of using gamified assessment tools, this study aims to illustrate how organizations de facto perceive the outcome, and thus what the actual benefits are. In addition, the gamified assessment tool is still a novel tool in the market. Therefore, the study adds value for future potential adopters.

1.3. Delimitations

While several stakeholders play a part in the adoption of a gamified assessment tool, the focus of this study is the perspective of the adopting organizations. Therefore, the study is only investigating the suppliers and candidates from the perspective of the adopting organization.

2. THEORETICAL FRAMEWORK

As the background and introduction to the study have been outlined, a theoretical framework follows to portray what has been researched within this and related fields, to pinpoint the importance of and gaps that this study aims to fill. The section ends with a synthesis of the literature and a, by the authors, developed theoretical model.

2.1. Literature Review

The literature review contains five important parts to facilitate an understanding of the field: Firstly, an (1) overview of the hiring process will be presented, to show which part of the process this study is limited to. Thereafter a (2) description of gamification and its relation to this focus area follows. With such an understanding, a (3) guidance into what research has found to influence the general practice of selecting assessment tools can be revealed. As the study examines a novel tool and the adoption of it, the following part focuses on innovation, beginning with (4) defining innovation, and ending with (5) innovative hiring practices in HRM and factors that have been found to influence the adoption of them.

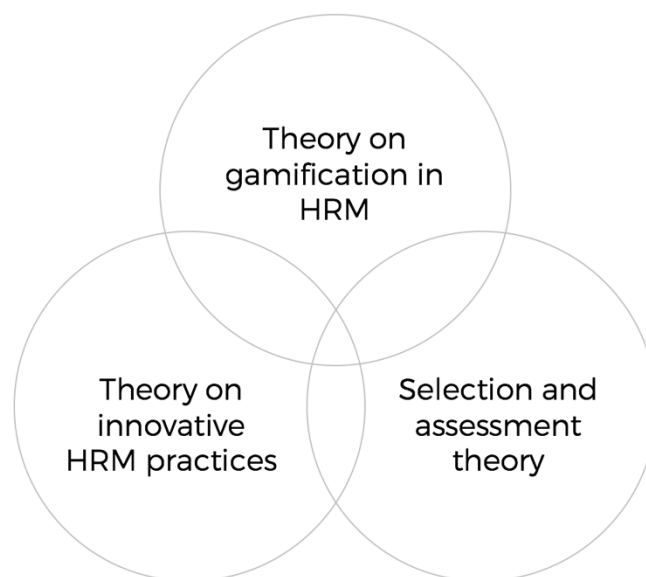


Figure 1: Visualization of the literature review

2.1.1. The Hiring Process

HRM processes contain elements such as *recruitment* and *selection*, *performance appraisal*, and *reward systems* (Compton, Morrissey and Nankervis, 2009). Andersson, Hallén and Smith (2016) describe the hiring process in seven steps. Firstly, the organization undertakes preparatory work, setting the targeted candidate profile and choosing assessment method. Secondly, the organization decides on how to search for candidates, followed by how to communicate the vacancy. For instance, which channels to use to reach the possible applicants. In a forth step, the organization collects and analyses data on candidates to, as a fifth step, make the final hiring decision. After the decision is made, the newly employed candidate is on-boarded, upon which an evaluation of the process follows.

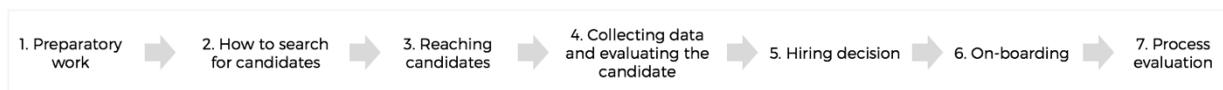


Figure 2: The hiring process (Andersson, Hallén and Smith, 2016)

Within the specific process, recruitment can be defined as including “*the practices and activities carried out by the organization with the primary purpose of identifying and attracting potential employees*” (Barber, 1998). The selection concerns conducting assessments of candidates, and based on the results predict future work performance (Armstrong et al., 2016a).

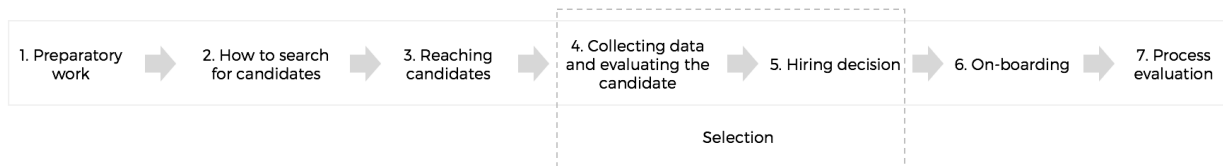


Figure 3: The selection part of the hiring process

2.1.2. Candidate Assessment Methods

The assessment of a candidate can be made via various methods. For example, one can measure knowledge, motivation, personality or cognitive ability. Among the more common methods, one can find the interview, psychometric test, and background check (Ryan and Ployhart, 2014; Buckley, Norris and Wiese, 2000; Compton, Morrissey and Nankervis, 2009, Andersson et al., 2016). In practice, interviews is the principal assessment method used (Ryan and Ployhart, 2014; Buckley, Norris and Wiese, 2000; Compton, Morrissey and Nankervis, 2009), and particularly unstructured ones, as opposed to

structured interviews (Graves and Karren, 1996; Hough and Oswald, 2000; Buckley, Norris and Wiese 2000; Andersson et al., 2016).

The psychometric test allows organizations to compare candidates through standardized processes. These could include, situational judgement tests, cognitive ability tests and personality tests, and can be used in different steps of the hiring process. (Andersson et al., 2016) In reviewing the candidates' background, one finds the CV or resume check, work samples and reference taking. CV or resume check is a common first step of the process. The use of work samples can be relevant for roles in creative fields (Andersson et al., 2016). While the above mentioned being the most common methods, other types are available. For example, there is assessment centers and simulation exercises, where the assessment center is a tool that presents the candidate with different types of activities (Ryan and Ployhart, 2014).

Recent Developments Within Assessment Methods

There are recent developments of assessment tools, however research is described as lagging within these areas. (Andersson et al., 2016) Technological advancements are considered highly influential, presenting itself in the selection process (Andersson et al., 2016; Ryan and Ployhart, 2014; Nikolaou and Foti, 2018). Classical tools have evolved with the technical progress, and one example is the psychometric test. From previously being written on paper, these tests are now digitalized, and certain adaptations serve to maintain the candidate's motivation throughout the test (Andersson et al., 2016, Tippins, 2011; Nikolaou and Foti, 2018). Another development that can be seen related to assessment tools, is the use of video interviews (Andersson et al., 2016; Chamorro-Premuzic, Winsborough, Sherman and Hogan, 2016). Not only has it in recent years been common to interview candidates using conference calls, with or without video, but as of today the interviewing is sometimes fully automated, where candidates read questions on a screen and answers while being recorded (Andersson et al., 2016). Among the recent developments, one also finds the gamified assessment tool (Nikolaou and Foti, 2018).

2.1.3. Gamification in the Selection and Assessment Process

An Introduction to Gamification

Gamification as a term developed in the digital media industry, and the first documented use dates to 2008 (Deterding et al., 2011). While there is no clear standard in terms of defining gamification (Seaborn and Fels, 2015; Ferrell et al., 2016), a reoccurring reference is the one proposed by Deterding et al., (2011): *"the use of game design elements in non-game contexts"*. Even though there are similar, parallel or overlapping concepts, it seems that gamification has institutionalized itself as a commonly used term (Deterding et al., 2011).

There is no clear cohesion in what the term “gamification” specifically contains (Seaborn and Fells, 2015). However, in trying to concretize what it could contain, Lowman (2016) describes four components of gamification. Firstly, gamification involves *gaming*, as opposed to playing, and refers to playing within a frame or by rules. The purpose is to reach a specific goal or outcome, often with the addition of competing against other players. Secondly, there is the *design* of the game, meaning that the process is designed in a manner that generates a “game-like experience” (Seaborn and Fells, 2015). Thirdly, Lowman (2016) explains that there are *characteristics* of the game, that certain elements are associated with games or contribute to gameplay, which Seaborn and Fells (2015) exemplify with the inclusion of a time constraint. Finally, the last component is the *non-game context*, which allows for leveraging the benefits associated with gaming in a non-game environment. (Lowman, 2016)



Figure 4: The components of gamification (Lowman, 2016)

The definition of gamification implies that the gamified object does not have to be transformed into a full-fledged game, but can simply include certain characteristics of a game (Deterding et al., 2011). On the very basic level, these could be badges, points and leaderboards (Armstrong et al., 2016a). For this study, the definition proposed by Deterding et al. (2011) has been chosen. Thus, a gamified object is one that includes some characteristics of a game, used in a non-game context, which here is the area of HRM and selection.

The Gamified Assessment Tool

The use of gamification outside of the traditional game context is an increasing occurrence (Ryan and Ployhart, 2014; Armstrong et al., 2016a; Lowman, 2016; Ferreira et al., 2017), and can in the context of HRM be found in the areas of *recruitment, selection, on-boarding, training, and performance management* (Armstrong et al., 2016; Ferrell et al., 2016; Callan et al., 2014).



Figure 5: Examples of gamification in human resource management

The specific use of gamification in the recruitment and selection part, is portrayed as the most recent phenomenon (Nikolaou and Foti, 2018), and has translated into the use of elements like simulations, badges, leaderboards, storylines, graphics and feedback mechanisms in the process. The assessment method thus varies in its construction, and could be of a simpler kind, as well as in the form of near-like game experience. (Armstrong et al., 2016a) For instance, the example test below is of a near-like game experience, in which four parameters are measured: cognition, thinking style, interpersonal style and delivering results. The test takes approximately 25 minutes to complete, and contains six different levels. (Arctic Shores, 2017)



Figure 6: Example of a game-based assessment test (Arctic Shores, 2017)

In reviewing the current state of the literature on gamification in HRM, its nascent nature and incompleteness becomes evident in several ways. Firstly, the academic findings within recruitment and selection are predominantly of an argumentative character (Callan et al., 2014; Chapman and Mayers, 2015; Derous and De Fruyt, 2016; Armstrong et al., 2016b; Chamorro-Premuzic et al., 2016; Chamorro-Premuzic et al., 2017; Lowman, 2016), describing the phenomenon based on theoretical arguments. Moreover, in terms of research design, academics describe how studies pertaining to gamification in HRM mainly are of a quantitative nature (Hamari et al., 2014; Ferreira et al., 2017), and that more qualitative research is needed (Chapman and Mayers, 2015).

Secondly, in reviewing the literature in conjunction to this study, predominantly conference papers have been found, which is also supported by Seaborn and Fels (2015), an insight clearly highlighting the scarcity of this field. As a result, many authors are referring to conference papers when

depicting their arguments, with the one by DuVernet and Popp (2014) being a common referenced source. Moreover, within the peer-reviewed literature, most studies on gamification pertain to education and learning (Hamari et al., 2014).

Thirdly, a lot of the conducted research lends on psychology research to understand how gamification assists in the effects that are sought after, thus reviewing individual parameters related to the candidates (Chow and Chapman, 2013; Hamari et al., 2014; Callan et al., 2015; Ferrell et al., 2016).

Lastly, the surge for empirical research within the area of assessment and selection is declared by several researchers (Ryan and Ployhart, 2014; Ferrell et al., 2016; Armstrong et al., 2016b; Chamorro-Premuzic et al., 2017; Chamorro-Premuzic et al., 2017). Still the illuminating literature continues to be of an argumentative nature. Research is evidently lagging behind practice in the field of gamification in HRM (Chamorro-Premuzic et al., 2017; Ferreira et al., 2017; Lowman, 2016). This is not something new within the field of HRM, in particular pertaining to the area of assessment and selection (Chamorro-Premuzic et al., 2016). Nevertheless, the gamified assessment tool and its value to a large extent remains hypothetical (Chamorro-Premuzic et al., 2017).

Still, there are many suggested benefits from the use of gamification in recruitment and selection. In recruitment, it is explained as having a value in terms of branding and image-building (Chapman and Mayers, 2015; Armstrong et al., 2016a; Derous and De Fruyt, 2016), and particularly to certain employee groups such as younger generations (Deraus and De Fruyt, 2016; Armstrong, Collmus and Landers, 2015). Moreover, Lowman (2016) points out a value in terms of attracting and retaining talent (Lowman, 2016). Another benefit highlighted from its use is the increased person-job fit. As proposed by Armstrong et al. (2016a), gamification can give candidates an insight into the organizational culture and values already before applying, or in an early stage of the recruitment process. Lastly, Ferrell et al., (2016) explain how its level of usefulness is commonly evaluated in terms of candidate volume and quality of applicants.

Chow and Chapman (2013) turn to the psychology literature, proposing a theory-based conceptual framework explaining how, why and when people are influenced by gamification in recruitment processes. The authors propose that gamification in recruitment is advantageous in its ability of attracting applicants, as well as having a positive branding value in terms of facilitating a positive attitude towards the organization. Consequently, it is suggested that the pool of candidate increases, and that the organization can be perceived as innovative, trendy and technologically advanced.

Within the area of assessment and selection, the usefulness is again described in terms of enabling the improvement of an organizations image among the wanted candidates, as well as improving the candidates' reaction towards the assessment method (Nikolaou and Foti, 2018). Another characteristic is the possibility for the candidate to obtain instant feedback once the test is completed (Nikolaou and Foti, 2018). Ferrell et al. (2016) describe the value in terms of delivering a fun and engaging assessment experience. In terms of cost of implementation, it depends on the technological requirements (Armstrong et al., 2016b), as the cost can be maintained relatively low by using existing tests and only applying minor changes (Landers, Bauer, Callan and Armstrong, 2015; Yan, Conrad, Tourangeau and Couper, 2011). Lastly, Armstrong et al. (2016a) imply a use of gamified assessment tools in terms of increasing the quality of assessment data. This is explained in terms of the test being more difficult to fake than traditional tests. In addition, Armstrong et al. (2016a) propose the tool as superior to questionnaire-constructed tests in how the gamified versions elicit the candidates' behavior.

While several positive aspects of gamified solutions in hiring practices are suggested, there are also some raised concerns. Ferrell et al. (2016) mention demographic considerations, as a gamified tool might be better received by a young audience, but can be a negative experience for an older one. Moreover, Ferrell et al. (2016) describe how game elements such as leaderboards and points should be inferred with caution. While being positive sources of motivation, it is important to tie behavioral rewards to outcomes that are desired.

Despite proposed value points and pitfalls, researchers seem to agree that there is a lack of research relating to gamification in HRM overall (Armstrong et al., 2016a; Lowman, 2016) and within the specific areas of recruitment (Callan et al., 2014; Chapman and Mayers, 2015) and assessment and selection (Ryan and Ployhart, 2014; Ferrell et al., 2016; Chamorro-Premuzic et al., 2017). Several academics call for the specific research of the gamified tool's validity (Ryan and Ployhart, 2014; Ferrell, et al., 2016; Chamorro-Premuzic et al., 2017, Derous and De Fruyt, 2016). Chamorro-Premuzic et al. (2016) describe the specific concern of practitioners seemingly being more focused on cost and candidate experience, rather than an assessment's accuracy. Moreover, Ferrell et al., 2016 also calls for the specific notion of establishing its face validity, meaning the candidate's experience of it (Andersson et al., 2016). On this notion, Armstrong et al. (2016a) explain that candidates who experience the selection procedure as unfair, will consequently develop a negative attitude towards the selection system. Perceived procedural injustice also suggests a reduced candidate motivation and organization attractiveness, as well as increased negative feelings towards the organization (Bauer, Truxillo, Tucker,

Weathers, Bertolino, Erdogan and Campion, 2006). Another dimension of the face validity, is how candidates with more experience with the used technology are expected to have more positive reactions to it (Bauer et al. 2006; Landers and Armstrong, 2015). Thus, those with low game experience may perceive the use of gamified tools as unfair, which might impact their choice of completing the process or not (Armstrong et al., 2015). Armstrong et al., (2015) also mention fairness concerns and further need for validity research based on the possible issue of generating improved scores with practice. Lastly, Ferrell et al. (2016) express issues about the construct validity, meaning that the game might be wrongly assessing computer or game skills.

The research field is vastly incomplete, with academics mainly pointing to theoretical benefits and some pitfalls of implementation, while simultaneously calling for more empirical research. Therefore, it is considered valuable to conduct an empirical investigation in terms of understanding why organizations decide to invest in this kind of tool, and their experienced outcome of implementation.

2.1.4. Elements Influencing the Choice of Assessment Methods

There is well established research on criteria for a quality assessment in terms of the importance of the method's validity (Harris, Dworkin and Park, 1990; Tippins, 2011; Andersson et al., 2016). Ideally, this would serve as a guide for organizations in shaping the selection method, yet in practice organizations tend to not always make use of this research. The existence of a research-practice gap related to the choice of method is well established (Taylor, Keelty and McDonnell, 2002; Ryan and Tippins, 2004; Lievens and De Paepe, 2004; Deadrick and Gibson, 2009; Ryan and Derous, 2016). A common example is the practitioners' use of unstructured interviews. Despite the science based development of selection decision aids, aiming to make better predictions of potential candidates, the popularity of the unstructured interview remains and is still widely used (Highhouse, 2008; Langhammer, 2013). This is even though research has proved that the validity of the unstructured interview is low (Lievens and De Paepe, 2004).

This discrepancy has led to researchers turning to other explanatory factors, both internal and external, to explain how organizations chose hiring practices.

The Environment

Environmental factors and societal elements such as legislation is proposed to influence hiring practices (König, Klehe, Berchtold and Kleinmann, 2010; Myors, Lievens, Schollaert, Van Hove, Cronshaw, Mladinic, et al., 2008). Legal claims pose a threat both in terms of reputation and possible legal sanctions.

However, the intensity of the legal pressure, and in extent the effect on organizations in their choice of assessment tool (König et al. 2010), is different from one country to another.

Another environmental factor described, is external influences from other market players. It is argued that organizations influence each other through mimetic pressures (DiMaggio and Powell, 1983), meaning that organizations strive to reduce uncertainty by imitating others. For instance, it has been shown that organizations are more willing to adopt certain practices when other organizations use the same ones (Johns 1993; Harris et al., 1990). Klehe (2004) hypothesize that this is applicable to the choice of assessment tools, supported by König et al. (2010) in finding that the level of spread of a tool in the field being a main predictor for adoption.

The candidates are also proposed to affect the choice of tool in practice (Klehe, 2004; König et al., 2010). Candidate reaction is hypothesized to impact the organization's legitimacy (Klehe, 2004), and using assessment tools that gain no acceptance from the candidates can possibly lead to refusal of job offers, withdrawal before accomplishing the process, or general complaints. König et al. (2010) found further support that assumed negative candidate reactions are a strong factor in the choice of assessment tools. However, paradoxically, since there is explained to be limited support for candidate withdrawal as an outcome of negative reactions (Ryan, Sacco, McFarland and Kriska, 2000), König et al. (2010) stipulate that this choice is about organizations being anxious.

The Organization

Turning to the internal organization, one factor suggested to influence practice is the organizational size. Barber, Wesson, Robertsson and Taylor (1999) have found that larger organizations to a higher extent value academic records and extracurricular undertakings. However, the researchers did not find that larger organizations were using psychological tests to any wider degree than smaller firms.

Moreover, König et al. (2010) have found support for the choice of assessment tool being grounded on the possibility to promote the organization. Organizational self-promotion is separated from candidate reaction because of two reasons. Firstly, self-promotion can be carried out despite using tools that are perceived as unfair, and secondly, it is the active presentation of positive information about the company.

An additional area of organizational impact is the employees. Firstly, individual preferences for a certain selection practice might influence the adoption (Lievens and De Paepe, 2004; Lodato, Highhouse and Brooks, 2011). Secondly,

there are widely held beliefs impacting the decisions. Highhouse (2008) explains how hiring individuals tend to rely on their intuition and own capability of making an accurate judgment, resulting in a de-selection of more standardized selection methods. Moreover, this intuitive capability is by hiring practitioners believed to be improved with experience (Dipboye and Jackson, 1999; Highhouse, 2008). Some authors suggest that the reason could be explained by the inaccessibility of academic literature (Rynes, Colbert and Brown, 2002), however, others explain how this belief remains even with higher levels of knowledge (Highhouse, 2008). Also, an increased awareness in regard to validity and reliability among practitioners is becoming evident (Cascio and Aguinis, 2005; Harris et al., 1990). Regarding the assumed overlooked importance of predictive validity, which is often discussed in relation to the research-practice gap, König et al. (2010) has found that validity is only a modest predictor in the choice and use of assessment tools. Still, with academia lagging behind in identifying the scientific measurements of new digital tools, the possibility of making a choice based on validity science is hindered (Ferreira et al., 2017).

Cost of Adoption

Another important factor that König et al. (2010) has found strong support for, is the cost of the method. Costs arise early in the process, long before the gains of a successful hiring can be measured. It is possible that a less expensive method will be selected in favor of a more expensive one. (König et al., 2010). However, Harris et al. (1990) found in their empirical study, that cost was among the least frequent predictor of the usage of a certain selection method.

2.1.5. Innovative Hiring Practices

While the previous section pictured what hiring practices and the choice of selection method are influenced by, this section considers influencing factors pertaining to innovations. The gamified assessment tool is a new digital method in the marketplace, which makes it relevant to review innovation research in relation to HRM. However, before the discussion can be initiated, a first general understanding and definition of the innovation concept, is of value.

Defining Innovation

In the innovation literature, two general ways of studying an innovation has developed. Either the focus is on *diffusion* of innovations, or on the *adoption* of innovations. (Parry and Wilson, 2009; Kimberly, 1981) Diffusion theory relates to how an innovation is spread within a social system, focusing on the reasons why some innovations diffuse at a faster pace than others, and the influence of the innovation's characteristics. (Damanpour, 1988; Rogers, 1995) Theory on

adoption on the other hand, generally focuses on the particular organization, and reviewing the elements within that influence the adoption. (Damanpour, 1988)

At the forefront of diffusion theory is Rogers (1995), who has developed a framework describing organizations' adoption of innovation. The author defines an innovation as *"an idea, practice or object that is perceived as new by the individual or other unit of adoption"* (Rogers, 1995). Emphasis is placed on whether the human perceives the idea as new, and not the objective newness since discovery or first use (Rogers, 1995).

From the perspective of adoption, an innovation can be defined as the *"adoption of an idea or behavior – whether a product, device, system, process, policy, program or service – that is new to the adopting organization"* (Damanpour, 1988; Aiken and Hage, 1971). Becker and Whisler (1967) highlights the importance of distinguishing between change and innovation, with the former meaning novelty in relation to the organization's history, and the latter the organization itself, as well as its environment. In establishing this, the authors suggest the following definition of an innovation: *"the first or early use of an idea by one of a set of organizations with similar goals"* (Becker and Whisler, 1967).

An innovation can be further categorized into being an administrative or technological innovation (Evan, 1966; Daft, 1978; Damanpour, 1987, 1988; Kimberly and Evanisko, 1981). This distinction is considered important as innovations have separate attributes and affect adoption processes in various ways (Damanpour, 1987, 1988). A technical innovation is portrayed as an idea for a new product, service or process, connected to the basic work-related activities (Evan 1966; Damanpour, 1988). Administrative innovations on the other hand are related to the social structures of the organization, with the innovation pertaining to resource allocation, task structuring, rewards, and recruitment policies (Evan, 1966). Administrative innovations are consequently suggested to be more connected to management, and only indirectly to the basic work-related activities (Damanpour, 1988). The reason behind separating between administrative and technological innovations is that the processes of adopting administrative and technological innovations differ. The first one tends to be top-down, and the latter bottom-up (Daft, 1978). Moreover, it is suggested that organizational factors such as size, specialization and centralization better predicts adoption of technological innovations, rather than of administrative innovations (Damanpour, 1987; Kimberly and Evanisko, 1981). In terms of where and why to place the gamified tool in this separation, it can on the one hand be described as an administrative innovation, but also as a technological innovation. From the perspective of the

organization, the assessment tool is part of HRM as a supportive function, related to the way of conducting practices and thus part of the social structure of the organization. However, from the perspective of the tool as having a practical purpose in terms of improving the practice of assessing candidates, and not aiming at influencing employee attitudes or behaviors, it could also be perceived as a technological innovation.

Within the specific area of HRM, Kossek (1987) defines an HRM innovation as an administrative innovation, and more specifically as *“any program, policy or practice designed to influence employee attitudes or behavior that is perceived to be new by members”*. A similar definition has been proposed by Wolfe (1995), who defines a human resource management innovation (HRMI) as an administrative innovation, and as *“an idea, program, practice or system which is related to the HRM function and is new to the adopting organization”*.

Based on the above-mentioned definitions, and the fact that the research field pertaining to the gamified assessment tool is limited, two separate definitions have been made to steer the literature search. In the first part, the definition as proposed by Kossek (1987) and Wolfe (1995) is used, where there is openness to the innovation being possible to relate to any part of the HRM function, and only must be perceived as new to the organization. In the second part, the definition has been narrowed to come closer to the particular field of the gamified assessment tool. As technology is a clear topic in relation to novel selection methods (Ryan and Ployhart, 2014; Ferrell et al., 2016), it was considered valuable to review the literature with this very element in mind. Moreover, the framing has been set to the specific areas of hiring practices, i.e. recruitment and selection within HRM, and therefore excluding practices related to already internally employed personnel.

Factors Influencing Adoption of Innovative HRM Practices

As a result of having two definitions steering the state of the literature, starting broad with innovative HRM practices in general, and later focusing on technological advancements in the areas of recruitment and selection, it has been found that theory on the broader notion of innovative HRM practices (Kossek, 1987; Wolfe, 1995; Som, 2007; Parry and Tyson, 2008; Bondarouk, Parry and Furtmueller, 2017), is of a more substantial character. However, within the narrower term, referring to technological advancements within recruitment and selection practices, the review showed to be sparser, which is supported by several authors (Ryan and Ployhart, 2014; Chapman and Mayers, 2015; Chamorro-Premuzic et al., 2016; Kashi, Zheng and Molineux, 2016; Derous and De Fruyt, 2016). Moreover, the literature is richer in terms of recruitment, as opposed to selection, why theory from the recruitment field will be used as well. In what has been found within this field, three overarching themes has

revealed themselves, namely the importance of the (1) environmental context, the (2) organization and the features of (3) the innovation.

The Environment

The organization is described to possibly be influenced by macro-environmental forces, such as political pressures and unions (Kossek, 1987; Wolfe, 1995) and labor market conditions, such as scarcity of labor force (Kossek, 1987; Wolfe, 1995; Som, 2007). Another important part of the macro-perspective, appears to be societal trends and technological change in the environment (Kossek, 1987).

Another found important factor is the market pressure, stemming from the industry and its competitors (Kossek, 1987; Kashi et al., 2016; Parry and Tyson, 2008). Based on a quantitative study regarding the adoption of social recruitment technologies in Australia, Kashi et al. (2016) propose that some industries are more likely than others to adopt new technologies, exemplified with the industry of information technology (IT) and communication. Som (2007), investigating India as a context, also hypothesizes a lower level of adoption in the manufacturing sector, than in the service sector.

Som (2007) also found what is described as the “critical mass” to be important. That is, that a certain number of other organizations have adopted the technology, having a pressing force on the organization. In reviewing recruitment practices, and usage of corporate and commercial websites in the UK, Parry and Tyson (2008) found a similar element, discussing that organizations adopt certain innovations to “move with the times” or to “keep up with other organizations”. A strive to gain legitimacy as an influence behind adoption is further supported by Kossek (1987).

Moreover, pressures from the supply side have been considered a determinant factor, where for instance the use of management consultants, and especially international ones, have been argued to impact adoption favorably (Som, 2007). The influence of such supply-side factors is further supported by Kossek (1987).

Last, but not least, the candidate demographics is proposed to be an important parameter of influence Holm (2014). In an empirical study of e-recruitment in Denmark, Holm (2014) found that the adoption of e-recruitment practices was tightly linked to a shift in the mindset of the candidates, that is, their expectations. While also linking to the technical development in the society, and the high rate of internet penetration in Denmark, Holm (2014) claims the reason to be a change of societal behaviors and norms of individuals. The importance of the candidate is also supported by Kashi et al. (2016), who suggest that candidate readiness is a key

determinant, defined both in terms of having the intellectual capability, but also the willingness to use the new technology.

The Organization

Another reoccurring theme in screening the existing literature is the importance of the organization's internal context (Chapman and Webster, 2003; Kossek, 1987; Wolfe, 1995; Som, 2007; Holm, 2014; Kashi et al., 2016). Firstly, the support from management is understood as essential. Wolfe (1995) explains the importance of managerial commitment to HRM as a function. Moreover, Som (2007) portrays how influential leadership improves the likelihood of creating a strong and innovative culture, and consequently adopting innovative practices within HRM. On the same notion, Kashi et al. (2016) describes the management's important role in terms of generating an innovative climate. Kossek (1987) and Wolfe (1995) also highlight how a stronger culture could increase the likelihood of adoption. Kossek (1987) further elaborates that not only is the support from management important, but also the nature of the relationship between HR and management, such as a direct reporting line between CEO and the HR head, and HR issues being part of the strategic agenda.

Size (Kossek, 1987; Wolfe, 1995; Som, 2007; Kashi et al., 2016) and financial resources (Kossek, 1987; Kashi et al., 2016) are other elements influencing the adoption. It is explained that larger organizations and those with greater financial resources, have better capacity and prerequisites to manage an implementation of innovation (Kashi et al., 2016; Kossek, 1987). Kashi et al. (2016) found support for an importance of a formalized HR department. However, this aspect was specifically related to the usage of social media as a recruitment tool in terms of further spread within the organization. Except from the HR department's configuration, Kashi et al. (2016) explain how HR capabilities influence the adoption. For instance, knowledge of the recruitment domain and social media capabilities were considered important in relation to adoption. However, this element was important in the way that the lack of it seems to steer the practice of outsourcing the recruiting process. On a similar notion, Som (2007) hypothesizes that the higher technological sophistication in the organization, the higher likelihood to adopt new technologies. Moreover, in the case of studying social media recruitment technologies, Kashi et al. (2016) found that a clear social media policy positively influenced the adoption.

Another dimension, is the significance of an innovation champion (Wolfe, 1995). This person is portrayed as someone promoting the innovation internally, and who inherits power in the event of internal resistance. This is explained to be based on the uncertainty that is inherent in new technologies.

The author explains how an HRM innovation needs to be personified by a champion who provides energy and momentum to it. Wolfe (1995) further elaborates that the more congruent an innovation is with the organizational context, the less effort is required from the innovation champion, and vice versa.

Kossek (1987) also proposes how the track records of innovation, and previous success of implementation an HRM innovation, means an increased likelihood of adopting new ones. The author develops that previous success is likely to make employees receptive to new ones, while negative experiences might foster doubt. Also, Som (2007) adds a proposed need to remain competitive, as well as foreign participation in the organization, as factors that are increasing the likelihood of adoption.

The Innovation

The final overarching theme found in the literature, is the innovation itself. Kossek (1987) highlights how the innovation and its features influence adoption, depending on their ability to be simply packaged and advertised, might be more easily spread and adopted by the market. Kashi et al. (2016) found support for that the level of complexity as perceived by the adopters acts as a restraining factor on the adoption.

Kashi et al. (2016) further discuss how the compatibility of the innovation influences adoption, claiming that to facilitate a social recruitment technology adoption, there is a need for the technology to be compatible with, for example, the HR representatives' past experiences and current strategic recruitment needs.

Kashi et al. (2016) moreover highlight how perceived benefits of the innovation facilitate adoption. The relative advantages found by Kashi et al. (2016) in studying social recruiting, mainly related to efficiency gains and strategic re-orientation. Mentioned efficiency gains were reduced costs, improved processing speed, improved targeting in terms of niched skills, labor markets, and job levels, as well as an improved possibility to disseminate information. (Kashi et al., 2016) The authors highlight that the unanimous mentioned gain in the study, was the opportunity to reach passive candidates. Related to strategic re-orientation, Kashi et al. (2016) mention the opportunity as a branding tool, and a way to improve the image of the organization. Moreover, the strategic re-orientation also refers to the opportunity of having a more proactive approach towards potential applicants, and facilitating the establishment of a long-term relationship with the potential candidates. (Kashi et al., 2016)

In a quantitative study on HR managers' practices in recruitment and selection Chapman and Webster (2003) found that innovative technology usage was predominantly adopted because of efficiency gains. This was related to an improved hiring speed and a more streamlined process. A similar finding on improved efficiency of the recruitment process is portrayed by Parry and Tyson (2008). However, they found that a reduction of recruitment costs was the predominant reason of adoption, which in Chapman and Webster's (2003) study was the third most important factor. More important than cost was the possibility of adoption as simply enabling the usage of a new screening tool (Chapman and Webster, 2003). Thereafter followed the factor of a standardized system, trailed by an expansion of the candidate pool, e.g., finding more qualitative applicants in current and other geographical areas (Chapman and Webster, 2003). A larger applicant pool was also found as a top factor in the study by Parry and Tyson (2008). Moreover, a possibility to promote the company image as consistent or high-tech, as well as making it more convenient for applicants, is stated by Chapman and Webster (2003). This last factor is also mentioned by Parry and Tyson (2008), as one of top importance. A less important factor in the study by Parry and Tyson (2008), was the motivation of staying ahead of competitive organizations.

In a study by Parry and Wilson (2009), also reviewing the recruitment practice of using corporate websites and commercial job boards in the UK, the authors found that the factors influencing adoption of these tools vary. Corporate websites are portrayed as being highly driven by subjective norms in industries with high perceived necessity of online presence. This means that those perceiving to be in an industry which is online, might be more likely to adopt the tool because of the experienced pressure to do so. On the other hand, commercial job boards appear to be of higher importance in terms of compatibility with the organization's or industry's culture, as well as relative advantages such as reaching a wider pool of applicants, and being more convenient. (Parry and Wilson, 2009)

The findings by Parry and Wilson (2009), showing that these two relatively similar recruitment tools exhibit significant distinctions in the factors driving the adoption further supports the need to study the gamified assessment tool as a separate unit of analysis.

2.1.6. The Research Gap

The literature review shows how there are several gaps in the existing literature. First and foremost, within the specific field of gamification and HRM, and on gamified assessments, researchers are calling for more empirical research to thoroughly understand this phenomenon. The lack of validity studies indicates that validity is not the driving force of implementation, which

the assessment literature suggests it should be (Andersson et al., 2016). Nevertheless, a research-practice gap in terms of practitioners being negligent towards validity measurements in the choice of traditional selection tools is considered well established (Taylor et al., 2002; Ryan and Tippins, 2004; Lievens and De Paepe, 2004; Deadrick and Gibson, 2009; Ryan and Derous, 2016.). Still, as this tool is new, the general theory on the selection of assessment methods gives no sufficient picture of why organizations adopt such a method. Why it was important to investigate whether the answer could be found in the research field on innovative HRM practices. The literature review describes how there are explanatory elements of why organizations adopt novel ideas. However, within the specific focus on novel assessment tools, the literature is sparse. Moreover, as previously described, Parry and Wilson (2009) found in reviewing two relatively similar online recruitment methods, that they had significant distinctions in terms of driving factors. Therefore, while theory lends support in terms of possible forces driving adoption of innovative HRM practices, there is a need for further investigation of the gamified assessment tool as a separate unit of analysis.

2.2. Theoretical Model

With the research gap at hand, and lack of a theoretical framework pertaining to the gamified assessment tool, the theoretical model steering the analysis will be a synthesized model developed by the authors of this study. The model is based on existing research within the field regarding the general choice of assessment methods, factors influencing the decision to adopt innovative HRM practices, as well as theory on the proposed use of adopting a gamified assessment tool. In reviewing these fields, three overarching themes with related subcategories have been found: the environment, the organization and the innovation. These elements will act as guidelines in analyzing the empirical data and later answering the research question.

However, reviewing all these proposed factors in depth would be an investigation much larger than the limits of this thesis. Instead, these several factors act as guidelines, to be considered in the data collection and analysis.



Figure 7: The theoretical model developed by the authors

3. METHODOLOGY

This section will outline the importance of methodological fit, followed by a description of the research architecture, the procedure of selecting, collecting and analyzing data, and ending with a discussion on research quality and methodological limitations.

3.1. Methodological Fit

The current state of the theory and research acts as a guide to how the study object should be examined. (Edmondson and McManus, 2007). In this study, the study object exists within a nascent field of theory and research, which has steered the architecture of the research.

3.2. Research Architecture

3.2.1. Research Philosophy

When conducting research, a standpoint in terms of ontology and epistemology must be considered. Ontology concerns the perception of what reality is, which can be considered either from the perspective of positivism or interpretivism (Lin, 1998; Bryman and Bell, 2011; Gray 2014). The standpoint of positivism means that the research process aims at generating hypotheses that are testable and a final theory that is generalizable can be applied in different settings (Eisenhardt, 1989). On the other hand, the process of interpretivism means that context is of value in the process of conducting theory. While the positivist epistemology seeks a combination of the natural and social sciences to conduct law-like justifications, interpretivism promotes the particularity within social sciences. Researchers applying this standpoint consider themselves to be part of the world they study, and the ascription of meaning to behavior is done by subjects themselves. (Welch, Piekkari, Plakoyiannaki, Paavilainen-Mäntymäki, 2011) Epistemology is about how the reality and knowledge is to be obtained, the dynamic between participant and researcher. The positivist stance promotes objectivity and dualism, that the respondent and knowledge are independent and can be studied by the researcher with objectivity. On the other hand, there is a constructivist stance, endorsing that the reality is a social construct, and that knowledge is created through the interaction between researcher and respondent. (Ponterotto, 2005)

As this study investigates the adoption of a gamified assessment tool, with the use of data originating from individuals' one-sided stories and realities, an interpretivist-constructivist stance was selected. In this way, a dialogue between researcher and interviewee is allowed (Bryman and Bell, 2011), and the data to be interpreted from the authors' subjective realities. (Welch et al., 2011)

3.2.2. Research Design

A qualitative multiple-case study design was deemed appropriate for the study. When a study relates to a manifestation which has not been well realized and understood, and when the state of existing research is perceived as nascent, a qualitative design is supported. Data collection is initially open-ended in nature, and is interpreted to create meaning of it. (Edmondson and McManus, 2007) In addition, a low level of measurability inherent in the research question, and the expected high level of dependability of the studied phenomenon in terms of context, further supports a qualitative study design. (Bryman and Bell, 2011). The case study is suitable for “how and why” questions; when a contemporary phenomenon is investigated (Yin, 2003) and one is trying to comprehend single settings and their inherent dynamics (Edmondson and McManus, 2007). The case study can be of a single or multiple case character (Edmondson and McManus, 2007). While single case studies have the potential to generate more holistic and comprehensive theory with depth and focus (Dyer and Wilkins, 1991), multiple case studies are considered to ensure a higher level of representativeness and validity (Gerring, 2004). As this study focuses on identifying and understanding patterns in a social world, the combination of a qualitative and multiple-case study design was chosen. In this way, the possibility to capture wider patterns and a generalizable result has been increased (Yin, 2003).

There are different approaches to generating theory. Deduction is an approach where the starting point is existing theory, based on which propositions are formed and tested in a real-world setting. Induction on the other hand, means originating from empirics, where theory is meticulously derived from the empirical data. (Andersen, 2012; Dubois and Gadde, 2002) There is also a third approach – abduction – where the original framework is modified in an iterative manner, both because of empirical and theoretical insights generated along the process (Dubois and Gadde, 2002). Given the interpretivist framing of this study and the lack of a sufficient theoretical framework, an abductive approach and thus gradually forming appropriate theory during the research was deemed beneficial.

3.3. Data Collection and Selection

The data collection relying on primary data in terms of interviews, and consists of an initial pre-study and a main study.

3.3.1. Pre-Study

In line with previous discussion, research on gamification in the HRM field is to a large extent limited, allowing for a wide range of topics to be investigated. Therefore, a pre-study was deemed necessary to set a direction and narrow

down the topic. The pre-study consisted of four semi-structured interviews with gamified assessment tool suppliers (see appendix 1), steered by an interview guide. However, a lot of freedom was left to the interviewer to explore topics beyond those covered in the guide. Reaching out to the providers was beneficial in many ways. Firstly, it allowed a better understanding of the different types of gamified tools currently in the market. Moreover, it created a perception through the suppliers' understanding of reoccurring customer motivations to use the tool, allowing for an initial theory research.

3.3.2. Main Study

The main study consisted of 13 interviews (see appendix 2) which each lasted between 20-55 minutes.

The Interview Design

As the study is of an explorative nature, it was considered important to allow for flexibility in the interview, while still covering certain topics derived from theory. Thus, the interviews were conducted in a semi-structured manner, which as described by Bryman and Bell (2007) allows flexibility for the respondent to raise topics outside of the guide. The interviews were conducted face-to-face when possible, through videoconference calls, and as a last resort through telephone. The method depended on geographical location and the respondents' preferences. All interviews were recorded, and a short summary with highlights was made thereafter, as suggested by Bryman and Bell (2007).

The Interview Guide

The interview guide (see appendix 3) was created prior to the interviews (Bryman and Bell, 2007). However, it was continuously, especially early on, updated with new topics that were raised by the respondents and deemed relevant for the study. Questions aimed to reveal the motivation behind the adoption of the gamified assessment tool, and other factors that might have influenced this decision. Moreover, the questions pertained to how the experienced outcome had been evaluated and perceived so far. Prior to initiating the interview, consent was asked for in terms of recording, and the respondent was presented to the choice of being anonymous.

Choice of Interviewees

Respondents were chosen using mainly the snowball method, a method where a limited amount of people of relevance to the study are approached and used to reach further respondents (Bryman and Bell, 2011). Initially, an attempt to identify organizations using gamified tools through their

webpages was made unsuccessfully. Instead, social networks such as LinkedIn were used to reach peer students who recently might have had gone through a hiring process including a gamified assessment tool. Moreover, an online search for tool providers enabled the finding of customer testimonials, informing about adopting organizations. Lastly, tool suppliers were asked for the provision of clients' names and direct contact information. In these ways, interviewees could be reached and selected.

In the selection of final respondents, three parameters were considered: the respondent had to be an HR-representative, 2) working in an organization that recently had implemented a gamified assessment tool according to the definition set in this study, and 3) actively took part in the decision of adopting the tool.

3.4. Data Analysis

Transcription allows a closer and more correct analysis of data (Bryman and Bell, 2011), why interviews were transcribed using oTranscribe, and in close relation to the interview taking place. This allowed a continuous analysis and adjustment of the topics covered in the interview whenever new topics were mentioned by the respondents. The qualitative data was thereafter coded according to categories based on theory, and on those created in vivo (Alvesson and Sköldböck, 2017), that is, drawn from the empiric material. Excel was used to facilitate the data coding, and interesting quotations were inserted for later use. Information that was not considered relevant for the study was left out.

3.5. Research Quality

Bryman and Bell (2007) points out how qualitative research has been criticized of being too subjective. While measures were taken to counter subjectivity, a discussion on reliability and validity is necessary. The discussion will be based on LeCompte and Goetz (1982) framework as presented in Bryman and Bell (2007) in relation to qualitative research.

3.5.1. Reliability

Reliability exists in two forms; external and internal (Bryman and Bell, 2007). External reliability is the degree to which the study can be replicated. It is highlighted by LeCompte and Goetz (1982) that this is an issue of qualitative studies since a study is always situated in a certain point in time and social context, which cannot be "frozen". A high level of transparency regarding the construction of the study, choice of respondents and data collection has been chosen to counter this, and to the highest possible extent allowing for

replication. Moreover, the interview guide has been included to further improve the external reliability.

Internal reliability refers to the agreement of what is seen and heard when comparing between the members of the research team (LeCompte and Goetz 1982, cited in Bryman and Bell, 2007). After each interview, the authors compared findings to ensure an alignment. Moreover, when in doubt, clarifying questions were asked to the respondents after the interview, to assure correct understanding. To further improve the reliability, the aim was to reach saturation (Merriam, 2009), that is a point where one starts hearing similar ideas from respondents, and thus can conclude that a sufficient level of data has been collected.

3.5.2. Validity

Validity can also be divided into an external and internal part. External validity measures the extent to which findings can be generalized across social settings (LeCompte and Goetz, 1982, cited in Bryman and Bell, 2007). Limitations of the research method, such as a small sample size, is presented as an issue related to the external validity. Since this is the case in this study, the extent of external validity is limited. However, since respondents are located in several developed countries, one could assume similar findings across developed countries.

Internal validity on the other hand refers to the match between the researchers' observations and the theoretical ideas developed (LeCompte and Goetz 1982, cited in Bryman and Bell, 2007). To improve the internal validity, the authors continuously went back to the coded findings to reduce bias in terms of creating perceptions that were not grounded in findings. Moreover, it was further improved by revision of the theoretical ideas in relation to the findings by the two authors.

3.6. Methodological Limitations

With any type of method, there are limitations. Concerning a qualitative method, it relies on the interview findings, which are both influenced by the willingness to disclose information and the respondent's bias. Therefore, handling respondents is a key parameter. Several aspects might influence the respondents' willingness to disclose information. For instance, the Hawthorne effect (Bryman and Bell, 2011) states that respondents might exaggerate positive and negative experiences as an effect of being noticed. Moreover, it is possible that the respondent wishes to describe the organization positively, or experience a fear of disclosing information that might be sensitive information.

While these are important considerations, the information disclosed can be deemed to be of insensitive nature, and thus less influential in terms of truthfulness. Moreover, to secure the generated data, respondents were informed about the opportunity to be anonymous prior to the interview. There was also an attempt to create some level of initial trust by initiating the interview with an introduction and some small talk. When allowed by the geographical location and respondent's schedule, interviews were held face-to-face, in a location of the respondent's choice. This to put the respondent at ease and thus facilitate the information sharing.

Moreover, there is also an issue regarding interpretation. Respondents interpret the questions according to their understanding of the subject, past experiences and knowledge. To counter this, non-academic, well established terms were used to the extent possible to facilitate for the respondent.

4. EMPIRICAL FINDINGS

Empirical findings display the main insights and is divided into three parts. The first one gives a short introduction to the tool, the second regards factors influencing the adoption of the tool, and the last is portraying the evaluation and experienced outcome of implementation.

To facilitate the reading and comprehension of the material, the gamified assessment tool used by the respondent organizations, will be referred to as “tool”. Moreover, talking about a supplier of the tool, the actor will be mentioned as “supplier”.

4.1. Types of Gamified Assessment Tools

Two different types of tools can be distinguished. Type A is only focusing on assessing the candidates and measures things like personality and cognitive ability. The tool can be positioned anywhere in the process. Some mention the use as a substitute for traditional psychometric tests, while others use it in combination with traditional ones.

In addition to functioning as an assessment tool, Type B also acts as a recruitment channel. In these cases, the job post is advertised on the test supplier’s webpage, making it an additional channel to the existing ones. This tool mainly assesses skills, and is typically more basic than the Type A tool in its design.

For the sake of anonymity, neither organizations’, nor suppliers’ names will be mentioned.

4.2. Factors Influencing the Adoption

4.2.1. Influential Elements

Industry

Only one respondent, working in the IT industry, discusses how the industry has influenced the adoption:

“[...] we are an IT company [...] what we are talking about is about digital advantage, and that is what we are offering, why I believe we as an IT company should have a technological mindset. We are talking much about innovation and development, and being at the forefront of technology, and then that should also be reflected in our internal processes. So, there was a clear idea in terms of that.” (Respondent 7)

Size of the Organization

The size varies among the respondents’ organizations. For instance, one organization is portrayed as a start-up, only operating in the market for about three years. The smallest studied organization has a headcount of approximately 30 individuals. On the other end of the spectrum there is for

example one organization with many years of market experience and about 7200 employees.

Strategic Agenda

Some respondents explain a strategic agenda in terms of recruiting young candidates, based on scarcity in the labor market:

"They [referring to managers] want experienced candidates, with 3-5 years of experience, and we know we won't find any, as the market is so extremely hot [...]. Therefore, we will take on graduates, because they have a better learning curve [...]" (Respondent 7)

Furthermore, an outspoken strategy of being a digital and innovative organization is portrayed by several, thus having an influence on their practices:

"From a global perspective, we say that we should be: digital first. [...] We are looking at VR technology; basically everything that is emerging technology and how it can be incorporated in our processes." (Respondent 3)

"We are really focused with shifting into digitalized technology, opposed to just manufacturing." (Respondent 10)

It is also mentioned that the aim of being a digital organization is influencing the practices within the HR function:

"[...] we are trying I would say to push the envelope in terms of digital and our strategy within HR." (Respondent 11)

Another respondent mentions how they often revise the hiring process based on their strategy to be a modern company, adding for example new and digital technology. One respondent also highlights how the positioning as an innovative organization is influencing the internal practices:

"[...] we have for long been called the annoying younger sibling, or maniacs [...] we are an underdog and want to change things [...]. Therefore, we were thinking we want to work with suppliers and collaborate with partners thinking alike, but within their area." (Respondent 6)

However, not all respondents mention the strategic agenda as an influencing factor:

"Certainly there is all sorts of things going on in the innovation sphere, but I am kind of outside of that. There are strategies and what not, but it is not connected a lot to my work." (Respondent 8)

Culture

Cultural aspects, such as being open to change, being innovative and having an encouraging climate, is also an evident element:

"I would say it occurred since about two years back, when we did quite a major global update of our values, and in relation to that I would say there is a lot of openness to change." (Respondent 3)

"These kinds of tests are always fun because we work much with tests [...] so new ones are fun for us to adopt. We have an open environment. We say we want to test it, and we look at the numbers, and see if we can use it." (Respondent 2)

"[...], our (Country 2) team is great, they are always looking to push the envelope on things, they really wanted to do it." (Respondent 11)

One respondent highlights the existence of hesitations prior to the adoption, but further explains how the organizational culture supported the move forward:

"[...] we are looking to continuously innovating the process, [...] we do have a culture of taking risks and being brave, continuously reviewing and analyzing, so we are encouraged to be bold and try things. So we have a culture that luckily supports us in trying new things, and being the first to innovate and take some risks." (Respondent 10)

Management Support

Several mention the importance of the manager's support. Rather than required to persuade the manager, many highlight how the manager either has given the respondent freedom to adopt practices believed to benefit the organization, pushing for the finding of new practices, or for the direct adoption of the tool:

"I went to him, and he has been quite pro-change, and been like: I would like to try something new [...]" (Respondent 3)

"A that time, we had a global head of HR, who really wanted to push the envelope and try new ideas [...] He came back and said: I feel like there is a potential here to introduce it into something else, where is a good opportunity for us to take an advantage of (the tool)?" (Respondent 11)

Respondents as Decision-Influencers

Several respondents have themselves had an impact on the adoption. Often, the idea of using gamification in the hiring process was perceived as appealing to the respondent, who sometimes already had an interest in for example games or technology:

"I am always playing video games, so I am an advocate. But then one should of course have a problem as well [...] I am running fast on these things I perceive as cool." (Respondent 3)

Another respondent mentions an interest of the tool since his first knowledge about it several years back, and finally found an area of use:

"[...] the project never happened, but I fell in love with the game at that point. And, in the other companies I've worked with since then, it has been something I've really wanted to use and to introduce. [...]" (Respondent 13)

Previous Positive Experiences with Innovations

Previous success became visible in two organizations. Both respondents mention how an organization within the business group had already implemented a similar tool, influencing the adoption in the respondent's organization:

"So based on that success, in the (Country 1), we wanted to try to apply it for the graduate role in (Country 2)." (Respondent 11)

Some respondents also mention how the tool was an upgrade from or an addition to an already successful, existing assessment method:

"[...] we replaced their excellent cognitive ability tool. [...] Given the success we have had with the other tool, that's why we went there, I just thought it was great." (Respondent 8)

Other times there are examples of the inverse, where previous tools perceived as less successful, thus creating a need for a new and improved tool:

"[...] we found that candidates experienced that quite stressful, and it also doesn't represent our brand very well [...]." (Respondent 10)

Suppliers

The respondents highlight the suppliers as a highly influential force in the adoption. In a clear majority of cases, the very idea of implementing a gamified tool was introduced by a supplier. Not seldom was the representative from the supplier someone that the respondent knew since before:

"He (Supplier 3) was the one who initially brought it to our attention [...]" (Respondent 1)

"It was actually through their sales person, (Name), who contacted me and that I have worked with before." (Respondent 5)

Another aspect highlighting the importance of the suppliers was their ability to convince the respondent of their tool's superior qualities:

"[...] we ended up loving the platform he was offering. We didn't actually speak to anybody else at all." (Respondent 5)

"We also looked at (Supplier 2) [...] I think we were so impressed with (Supplier 1), that we made the decision based on those initial conversations." (Respondent 10)

It is also evident that the connection to the person working for the test supplier helped to establish trust in the tool:

"[...] after all of that we still really liked (Supplier 2), and we really liked the relationship that we had built with them. [...] you want to have a good relationship with the people you will be working with." (Respondent 11)

"[...] also, I knew the guy who was in charge of this psychometric tool. I had worked with him before and I knew it was some quality stuff he was responsible for, so that is why we decided to go with it." (Respondent 4)

Moreover, in some cases, there was already an existing supplier collaboration before the adoption, and the already established relationship and trust appear to have had impact:

"I trust my supplier, and they have partnerships with others, so I believe others have collaborations with a company which is perceived as reliable. Otherwise I would have conducted more research" (Respondent 7)

Other Organizations

While the suppliers show to be an important factor in the adoption of the new tool, only a few respondents explain how other organizations have influenced:

"I think it was (Company A) or (Company B) who had used the gamified tool, that we ended up using [...] so I thought that maybe we should also try to do that." (Respondent 4)

However, while being a source of information, the respondent does not find the organizations to have high impact on the final decision. Moreover, many respondents perceive themselves as first movers, or state that they are not aware of what the competitors are doing:

"[...] it was not like we had a massive amount of partners or anything using similar things, [...] because we really didn't have anybody else that use gamification at the moment, to ask how it was going or anything like that." (Respondent 1)

"No, we are first, which is fun." (Respondent 7)

The Candidates

The most frequently mentioned target group was young candidates. Several mention their perceptions of the candidate group's behavior and how they are used to embracing and using new technology. One respondent describes that the tool is used in the application process for a graduate or trainee program, based on the idea that the tool would appeal to this specific demographic group:

"Yes exactly, if it is a position where we know that the candidates are within this target group." (Respondent 13)

Another respondent hires mostly in the late teens and early twenties, and believes the tool is a good fit for this reason:

"[...] because we have a lot of young people who widely use technology already to find information, so it is suitable for the type of people that we recruit." (Respondent 1)

Not only it is mentioned that the tool is suitable for a younger crowd, but also less suitable for more senior candidates:

"People in college are more open to the idea, than if you were to, you know, introduce playing that game to get hired to someone who is like 50. We just know this generation is more digital. (Respondent 11)

*"We never thought we were going to use it for recruiting directors, but for graduates because they might be more positive towards a different kind of assessment tool."
(Respondent 4)*

The Expression of a Business Case

Several respondents explain how the final decision in the end requires a business case and description of what the tool means in terms of added value for the organization:

"[...] we need to have a clear business case for why we are doing it and what we would get out of it." (Respondent 4)

"So, we built up a business case, as you always have to do, and then we introduced it again to the leadership forum, and we said: look, here is the potential [...]." (Respondent 11)

Cost of Adoption

One respondent also compared the cost of using the new tool with using a recruitment agency, and found the first to be more cost effective, a factor for this respondent clearly affecting the decision to implement the tool.

Something New

Among the inherent factors that were in motion and could have hindered the adoption, several respondents mention the fact that the tool is new which itself generated uncertainties:

"It wasn't necessarily that we were concerned about gamification or what the platform couldn't or could do, it was more of just being something new which we hadn't really heard of or knew much about at the time." (Respondent 1)

"Always when introducing a new tool, [...] will this really work? [...] it is often the technical side you are worried about, but that worked out really well." (Respondent 4)

4.2.2. Desired Outcomes

Improved Candidate Experience

One seemingly decisive motivation behind the adoption was to improve the candidate experience. Some describe the old tests as boring, ugly or stressful, and a need to reduce these aspects through introducing a new tool and make the process more fun and engaging:

"[...] we are looking to continuously innovate the process, and also ensure that there is a good candidate experience, and with the ability testing we were finding that candidates found that quite stressful [...]" (Respondent 10)

"We really wanted something that was fun for the candidate." (Respondent 4)

"One of them is about employer brand, or rather candidate experience. It is a lot about making sure one is interesting in terms of the offering, what we are formulating in our offering, and where we are visible." (Respondent 7)

Some even say the candidate experience was the most important factor, or that the decision was purely candidate-driven.

"No, this was purely a candidate decision. [...] it was more trying to look through the candidates' eye lens, and what's going to be engaging for them [...]" (Respondent 8)

The value of instant feedback, and being able to communicate with the candidate in a proper tone, was by some expressed as a valuable element to be enabled by the adoption.

Employer Branding

Employer Branding is frequently mentioned among the respondents as a factor for adoption. A need for visibility and standing out among competitors were mentioned:

"They may know the name, but it doesn't mean people want to work for you. We really want to introduce ourselves and differentiate ourselves in the recruiting space, compared to other insurers in the market. So this was a way to do that." (Respondent 11)

"However, there is also the employer branding component, which is quite key." (Respondent 11)

"[...] then people have seen us, we are not a very known brand, particularly not outside of Stockholm." (Respondent 5)

"As well as that, with the onset of digitalization, we didn't feel that our selection tool reflected our brand." (Respondent 10)

Being at the Forefront of Digitalization

Being at the forefront of digitalization is another motivation raised by several respondents. It appears that being perceived as modern, even in the hiring process, is considered important. For instance, even if one respondent found no evident issue in the old recruitment process, they still wanted to modernize:

"We really tried to become more modern in the way we approach graduate recruitment, and to use digital tools that are out there (Respondent 4)

"[...] it is also a way to being able to say that we are working with the latest in recruitment." (Respondent 7)

"We want to be out there doing the new thing." (Respondent 2)

One respondent continues by stating that it might not be as new anymore, but that they still are at the forefront:

"[...] there are many players who have not even started to think about this." (Respondent 7)

Diversity

Another factor mentioned was the wish to obtain more diversity among candidates. The tool was believed to reduce bias with the result of reaching the right competencies and ensure diversity in the organization:

"It was important that the tools we defined would ensure the right competence and ensure diversity from all different kind of perspectives." (Respondent 7)

"I believe that it is the competence that matters primarily, and this is what I like with this platform in that it really enables." (Respondent 6)

Process Improvements

Another motivation to implement the tool was to make the process more efficient. For instance, one respondent describes the advantages in using the tool in mass recruitment, to narrow down the number of candidates:

"We were really asking ourselves: is there a more efficient process that we can introduce to the system earlier and help us screen candidates? [...] So it allows for us to be able to introduce a screening process immediately [...]. (Respondent 11)

Other motivations regards to a reduced need of resources – such as time and money. For instance, one respondent discusses the potential in reducing man-hours, and in extension costs:

"[...] it has the potential to really reduce man-hours, because if you get to a point where you are comfortable and trust the algorithm, you can just screen up people below 75, and just review candidates resumes and CVs above 75. That would save us a lot of money." (Respondent 11)

"[...] our head of HR at the time, and his chief of staff really saw a value in regards to that customer service role. It just takes a lot of time and a lot of money to hire so many people." (Respondent 11)

Validity

Opinions differs concerning the importance of validity in the proceedings to adoption. Some mentioned the importance of an objective and science based method, while others had less focus on this aspect. In terms of the Type A tool, respondents show a raised concern about the validity:

"In the process, it was important to ensure that it was a valid tool, something that we could place our decisions on." (Respondent 4)

While stressing the importance of validity, it must be balanced with the candidate experience, as according to one respondent claiming this to be a trade-off:

"The tools we are using should be based on science. [...] There is data, but it might not be as good as the traditional tests, but it is a trade-off [...] you can measure personality as well with a gamification, and maybe it is not as bullet proof every time [...]. (Respondent 5)

Moreover, another respondent mentions a concern about the face validity in relation to professional hires, as opposed to graduates:

"I guess I had concerns about the face validity [...] for professional hires and make sure that to them it feels relevant, to the role that they apply for". (Respondent 10)

Furthermore, one respondent mentions a discussion about validity prior to adoption. However, since the organization is not using the tool as a "cut-off" to de-select candidates, but rather as one part of several, and more focus on the tool as a recruitment method, the question regarding validity became less important.

Other respondents describe how validity was an important consideration, but that the tool's validity cannot be fully trusted until it has been used for a longer period:

"When we first started the program, we brought this stuff in knowing it was really going to be a few years before we know what its validity is like." (Respondent 8)

"[...] we always knew that validity would be a concern, a good concern right, because we want to make sure it is actually telling us the truth. [...] it takes a little bit more time, because, our graduates don't have roles where we calculate, or have a lot of data on performance right away." (Respondent 11)

4.3. Evaluation and Outcome

4.3.1. Evaluation

Several respondents describe how the gamified assessment tool has been implemented in the form of a pilot, functioning as an evaluation of its usefulness:

"[...] we have decided to conduct a pilot and see if it turns out well." (Respondent 3)

The extent of tool evaluation undertaken so far differs among the subject companies, and depends on factors such as the implementation acting as an evaluation itself, that not much time has elapsed since implementation, the number of candidates recruited so far, or the amount of data obtained.

Some respondents mention the reception of metrics from the supplier, while others experience a deception in terms of not having enough communication with the supplier in terms of follow-ups and evaluation. However, some respondents describe how the tool has or will be evaluated by internal means:

"So, what we are going to be doing is, as graduates work, we build up performance data for them [...] we are going to be able distinguish a year after their hire, how they are performing." (Respondent 11)

Nevertheless, several respondents claim a need for more evidence to be able to fully evaluate its outcome:

"How it goes in the future, it's a little hard to know [...] we will only know a few years later, how effective it was." (Respondent 8)

4.3.2. Outcome

The respondents' perceptions of the outcome of implementation varies, including both positive and negative experiences:

"[...] so far, the results have been really successful." (Respondent 10)

"I am not very happy with (Supplier 4), it did not work very well for us [...]." (Respondent 9)

Validity

The validity result was mainly discussed in relation to the Type A tool, and the perception differs. One respondent discusses how they were also using traditional psychometric tests in the hiring process, and when later comparing the results, they were only partially matching:

"The main issue is what the results showed. Some results supported very well the other psychometric results that we had, and some were in a completely other direction." (Respondent 4)

Another respondent, who describes the implementation being influenced by previous success in another geographical area in the corporate group, explains how the outcome did not give the same positive result:

"So based on that success, in (Country 1), we wanted to try it for the graduate role in (Country 2). It was interesting when we tried it out though, in (Country 2), because we didn't have as much success [...]" (Respondent 11).

The respondent elaborates that this result might be an outcome of not ensuring the validity parameter beforehand, which had been done in the country experiencing great success.

One respondent, despite not yet knowing the test's outcome, describes a hesitation in trusting the validity when measuring personality:

"[...] the data you get when measuring personality... again it is this trade-off, but in terms of abstract reasoning, we believe it works." (Respondent 7)

Lastly, some express the tool as "spot on" in terms of assessing the candidate accurately.

Diversity

Several respondents discuss diversity and fairness as an outcome, with examples such as reducing bias and being more inclusive to minorities. As one respondent mentions, the use of the tool generated a more heterogenic group of candidates:

"[...] certainly I looked at last year's group and it was widely different. This made for really good assessment centers because you had all these different people. [...]" (Respondent 8)

It is also mentioned how a candidate with low academic results was enabled to be included in the hiring process with the new tool. This candidate scored high on the gamified tool, and turned out to be a high performer in the organization. Without this tool, it is expressed that they would have missed out on this employee. Moreover, the respondent refers to a dyslexic candidate who experienced the tool as more convenient to his needs as opposed to classical tools. Lastly, one respondent mentions how the tool resulted in a doubled number of women making it to the final assessment center.

Candidate Experience

A positive outcome that is commonly mentioned is the improved candidate experience. One respondent mentions that the candidates "loved it", which was found with the use of a satisfaction study filled out by the applicants:

"Most candidates had never tried it before and thought it was really fun to try out. So, I think we ended up with a really good group of candidates." (Respondent 4)

Several others mention that in talking to the candidates at the final assessment center stage, they expressed many positive experiences:

"[...] the feedback we received at the assessment day was that they wanted to complete more games, they wanted to continue." (Respondent 7)

"The feedback we got from was really good from candidates when we got to the assessment centers [...] they really enjoyed that side of it, because it's a little bit different, it doesn't feel like you are doing an exam or a test-test." (Respondent 8)

Closely related to the candidate experience is the employer branding, which was also discussed as a positive result:

"I would say that it added more value in the employer branding than it did with efficiency. People in college really like the fact that they actually play a game as a part of the recruiting process because it's quite different, no one else is doing it in (Country 2), which is you know really nice." (Respondent 11)

"[...] not only did they find it less stressful and were enjoying it, they are actually more excited in regards to our brand." (Respondent 10)

Moreover, one mentions the perception of an increased motivation among the candidates in getting to the final assessment day. By playing the game, candidates were highly motivated to fight for their position.

Lastly, according to one respondent, the candidates experienced the tool as less stressful, and more fun to complete.

Process-Related Outcomes

One respondent explains the lower level of drop-outs, meaning that more candidates remained in the process. However, another experienced the opposite result due to technical issues. As many applicants were completing the gamified test simultaneously, this put pressure on the supplier's servers, leading to the poor outcome.

Another respondent mentions the tight connection between diversity and the tools improvement in terms of processing speed. As the tool enables the candidate to take the assessment test in several steps and in a pace that feels suitable, the process improvement was expressed as an outcome of great value:

"It also adds the component of processing speed [...], I had a candidate which is dyslexic [...]. He said the experience for him was entirely different, because he was able to re-order the mini games to his own liking [...], he was able to get his rhythm, and then move on to the next one. (Respondent 8)

5. ANALYSIS AND DISCUSSION

With the use of the theoretical model, the empirical data is analyzed to answer the study's research question. The overall section is divided into five parts, beginning with the three overarching themes presented in the theoretical framework. Thereafter follows a fourth section where the outcomes of implementation are discussed. Finally, a last section discusses the findings from a holistic perspective, tying it all together.

5.1. Environmental Factors

5.1.1. Societal Trends and Technological Change

The very existence of the gamified assessment tool is thought to stem from the technological advancements that can be seen in the society (Deros and De Fruyt, 2016). In terms of adoption of the tool, it also appears that these elements play an important role, as does the wish to be modern and being at the forefront of digitalization. This ties back to previous findings from Kossek (1987) as well as Parry and Tyson (2008). Kossek (1987) further explains a strive to gain legitimacy, something that seems to be evident in this case, as the organizations appear to perceive a pressure to portray a contemporary and trendy image of themselves towards the surrounding.

5.1.2. Labor Market Conditions

The labor scarcity as a motivation (Kossek, 1987; Wolfe, 1995; Som, 2007) to adopt the tool was mentioned mainly in relation to using the Type B tool, and seems to some extent to have been an influential factor for the adoption. However, this was only evident in the case of using a tool that had the addition of acting as a recruitment channel, and thus not pertaining to the tool as an assessment method.

5.1.3. The Industry

With the organizations acting in different sectors, there is little evidence for a coherent industry impact. However, these separate industries with their own contextual elements, could still possibly influence the adoption. In line with Kashi et al. (2016)'s idea that IT companies are more likely to adopt new technology, one respondent highlighted the impact of being in the IT sector on internal processes. Even though the study is not quantitative or aiming to prove Som (2007)'s proposal with regards to an increased likelihood of adoption for organizations in the service sector, it is interesting to notice that a majority of organizations in this study are acting in the service sector industry. Despite these findings, there are no other indications that a pressure from the contextual industry elements have had any major impact.

5.1.4. Competitors and Other Organizations

The influence from competitors and other organizations is seemingly low, as mentioned by most organizations. This is an interesting finding, as influences from other market players is a commonly suggested factor by researchers (DiMaggio and Powell, 1983; Kossek, 1987; Harris et al., 1990; Johns, 1993; Klehe, 2004; Parry and Tyson, 2008; König et al., 2010; Kashi et al., 2016). However, as empirics show, one or two respondents have highlighted an influence in the adoption. In understanding why other organizations are portrayed as having as diminutive influence, it might be that the critical mass or the level of spread, as discussed by König et al. (2010) has not yet been reached. This is supported by attitudes such as being the first one out, or being at the forefront, as well as not being aware of what competitors are doing. Therefore, it seems to be support for the opposite to the idea of mimetic pressure (DiMaggio and Powell 1983), since the majority are adopting the tool as a means to differentiate themselves, and to be among the first to do so. Interestingly, the study by Parry and Wilson (2009) found the element of staying ahead of competitors, to be the least important factor within their sample respondents, when studying commercial job boards and corporate websites as online recruitment methods. However, one can argue that these studied online tools by Parry and Wilson (2009) might not have had the same level of novelty attached to them in terms of market use, why a direct comparison is somewhat deficient.

5.1.5. Suppliers

It is evident that suppliers have had a major impact on the adoption, in the way the tool has been presented and anchored in the mind of the respondent' and their organizations. In many situations, there was an already established relationship between the representatives from the organizations, revealed to function as a parameter of trust. Several times, this trust anchored the idea as much that the conclusion to adopt the tool was more or less achieved instantly, and the adoption became more of a question of when and how. Kossek (1987) and Som (2007) describe the supply side as a determinant factor in the choice of adoption, however, in terms of consulting firms. While there was no sign of influence from any consultancies, a major supply-side pressure is obvious.

5.1.6. Candidate Demographics and Reactions

Considering both the strong focus on young candidate groups, and the motivation to de-select a use of the tool for more senior candidates, there is strong support for the candidate demographics being a high influencing factor in the adoption (Holm 2014). In several instances, the target group and its supposed behaviors and knowledge are discussed in terms of being

aligned with the tool. As explained by Kashi et al. (2016), it is clear that the respondents assume candidate readiness, both in terms of intellectual capability as well as willingness to take the test in this new arrangement, rather than in the traditional form which is upheld as less relevant for the group. This is in line with what Derous and De Fruyt (2016) and Armstrong et al. (2015) depicts in terms of proposed benefits, as it is mentioned that there is a specific value of using the tool in relation to younger generations. Moreover, the influence from candidate reactions (König et al., 2010) is also apparent, which aligns with the candidate experience to be later discussed. By describing the tool as suitable for this demographic group, and pointing out how the tool as a way to improve the candidate experience, the respondents reveal how they assume that the adoption of the tool will result in a positive candidate reaction towards it.

5.1.7. Concluding the Environmental Factors

Several environmental factors are evidently inherent in the adoption of the gamified assessment tool. Particularly, societal trends and technological change, suppliers, and the candidate demographics seem to work as highly strong forces.

5.2. Organizational Factors

5.2.1. Organizational Size and Financial Resources

The organizational size is a parameter that is mentioned by many researchers. The larger the size, the more likelihood of adoption of an innovation there is (Kossek, 1987; Wolfe, 1995; Som, 2007; Kashi et al., 2016). However, the empirical data in this study reveals no such relationship. Moreover, information about financial resources was not shared by the respondents, which is why the findings stating that more financial resources increase the likelihood of adoption (Kossek, 1987; Kashi et al., 2016) cannot be fully evaluated.

5.2.2. Formalized HR Department and HR Capabilities

Kashi et al. (2016) mention the importance of a formalized HR department and HR capabilities as an influencing factor for the adoption of social recruiting techniques. However, these factors were discussed in relation to steering the further adoption of the innovation within the organization, to be used in other functions. This makes this parameter less relevant in relation to an initial adoption, and such an aspect was not presented by the respondents. In relation to HR capabilities, the empirical data shows no sign of this being prevalent in terms of steering the adoption. Related to the parameter of technological sophistication within the organization described by Som (2007), a thorough investigation and relative comparison was deemed to be out of

scope for this study, which is why the HR element as an influencing factor will be left inconclusive.

5.2.3. Management Support and Culture

Many of the respondents upheld the importance of managers in the adoption of the tool, in line with what previous authors have explained to be playing a great role (Wolfe, 1995; Som, 2007; Kashi et al., 2016). Some respondents even maintained that the adoption was pushed by the manager, who wished for the organization to find a use in adopting the tool. In larger organizations, the respondents' nearest manager was often an HR manager, while for the smaller organizations, the CEO was typically the closest manager of the respondent. In many cases, the respondents confirm the importance of a close relationship and direct reporting line between the CEO and the head of HR (Kossek, 1987).

Som (2007) and Kashi et al. (2016) depict how the management plays a role in developing a strong and innovative climate, which facilitates adoption of innovations. A cultural importance is evident based on the empirical findings. However, whether innovative culture is the work of the management cannot be said. Nevertheless, this aspect has clearly facilitated the adoption in terms of both having an organization willing to take on new changes, and daring to do so.

5.2.4. Track Record of Innovations

The presence of a track record, meaning that previous successful implementations nurture future ones (Kossek, 1987) was found as one factor of influence for one respondent organization. In this case, the organization was part of the corporate group, and this success story was mentioned to be influential in many ways. While not directly being a success story within the boundaries of the very same organization, this other organization is part of the internal boundaries from the perspective of the corporate group, and might function motivationally in the same manner (Kossek, 1987). However, there was no other sign in the sample that any track record of innovations or success stories acted as a motivational factor in the adoption of this tool.

5.2.5. Employees and Innovation Champions

Some respondents have themselves proved to be valuable in the adoption. This could be related to some extent to Wolfe's concept regarding the innovation champion (Wolfe, 1995). However, as the author expresses that the champion provides momentum and energy to the implementation, and is internally promoting the innovation, it cannot directly be applied on the empirical findings. Rather than showing signs of a need to be particularly

persuasive or to anchor the innovation, the respondents portray themselves as true advocates of the innovation, convinced of its usefulness.

Lievens and De Paepe (2004) and Lodato et al., (2011) explain how individual preferences for a certain method could influence selection practice. This is supported by the empirical data. One respondent even described a self-awareness in terms of often being a first runner when it comes to novel ideas, and how this also held true for this adoption. The respondent and his colleagues found a use that supported this preference, which is why one cannot say that this was the only inherent factor, but still an important one. Another respondent expresses a similar devotion. The person had been waiting for a relevant situation to make use of the innovation, and was finally able to implement it in his new employment. However, while evident in some cases, such explicit preference was not expressed by all respondents.

5.2.6. Concluding the Organizational Factors

In conclusion, there is evidence of several organizational factors having an influence on the adoption of gamified assessment tools. From the perspective of coherence, managers' support and culture are highly influential forces for most respondent organizations.

5.3. Innovation-Related Factors

5.3.1. Complexity

Authors have found how an innovation's complexity may influence adoption (Kossek, 1987; Kashi et al., 2016). Several respondents in this study experience a high level of uncertainty, mentioning the novelty of the innovation as a restraining factor. Several expresses the technical aspect of the innovation, and the risks in relation to its functionality being unknown. However, as all the organizations ultimately decided to adopt, other elements seem to have had stronger impact on adoption.

5.3.2. Compatibility

Compatibility is introduced by Kashi et al. (2016) as a predictive force for the adoption of a new tool. In this study, partial support for this factor can be found. Regarding strategic recruitment needs (Kashi et al. 2016), several respondents express a focus on targeting young employees. The adopted tool was seen as compatible with the younger generational group, underlining how compatibility has played an important role in the adoption. Moreover, several respondents express an outspoken company strategy of being innovative and digital, supporting the adoption. Thus, there seems to be an alignment with the overall strategic agenda.

5.3.3. Cost of Adoption

The cost of an innovation is a mentioned theme in the literature, with some scholars depicting the cost as a factor of strong influence (König et al., 2010). König et al. (2010) elaborate on how less expensive methods might be favored over more expensive ones. However, only one respondent mentions the final decision as a direct effect of it being a less expensive alternative. This respondent would support König et al.'s (2010) proposition on the importance of cost. While others did not state this factor as neither decisive nor important, they did describe the importance of a business case for it, which often had to be presented prior to the adoption. However, while some mention the business case in monetary terms, the added value is not always in terms of financials. On the one hand, as all organizations have adopted the new tool, cost could be a less predictive factor, in line with what is stated by Harris et al. (1990). On the other hand, Armstrong et al., (2016b) explain how simple game mechanics mean that the cost of gamification could be maintained at a relatively low level (Landers et al., 2015; Yan et al., 2011). In line with this, as the Type B tool includes a relatively low degree of gamification, this could be an explanatory factor to why the cost was not an evident factor inherent in the decision. Nevertheless, the Type A tool shows more complexity and association to a full-fledged game. Still, these respondents do not portray the cost as the main explanatory factor.

5.3.4. Desired and Experienced Outcomes

Employer Branding and Candidate Experience

Employer Branding as a Motivational Factor

There is strong support for the reason to adopt a gamified tool stemming from its use as means to promote the organization positively (Chow and Chapman, 2013; Chapman and Mayers, 2015; Armstrong et al., 2016a; Derous and De Fruyt, 2016; Nikolaou and Foti, 2018) as this was a frequently mentioned factor, both implicitly and explicitly. In using the gamified assessment tool, many respondents highlight how this will project a positive image of the organization towards the candidates. This proposed branding value is also mentioned outside the area of gamification (König et al., 2010; Parry and Tyson, 2008; Kashi et al., 2016), which is why this finding is not surprising.

Candidate Experience as a Motivational Factor

The empirical data shows how strongly the respondents value the candidate experience, many times mentioning this as the decisive factor in determining to adopt the gamified assessment tool, in line with how Ferrell et al. (2016) describe the tool's usefulness. However, while the cost of adoption did not

clearly show to be a strong motivator, the focus on candidate experience, rather than primarily on the tool's validity and accuracy, somewhat confirms the point raised by Chamorro-Premuzic et al. (2016) in how practitioners are more concerned about cost and the candidate experience, rather than the accuracy of the assessment. Nevertheless, in terms of evaluations, the candidate experience was expressed to deliver very good results. In line with Nikolaou and Foti (2018), the candidates' reactions towards the assessment test are said to have been more positive than towards previous assessment methods (Ferrell et al., 2016).

Employer Branding and Candidate Experience as an Outcome of Implementation

Several respondents mention the positive outcome in terms of candidate experience, and its usefulness as a branding tool. However, since there was no inquiry on the candidate side, to conclude exactly what type of attitude changes took place is not possible (Chow and Chapman, 2013). Moreover, one must consider that some of the positive reports were from candidates making it to the assessment center, giving a cause to doubt whether these candidates might be biased in their perception. Moreover, even if the experience was negative, one might have decided to withhold such information, to not influence the recruiter's perception of the candidate.

Process Improvements

Process Improvements as a Motivational Factor

Some organizations sought a new screening process that would reduce the pool of candidates at an earlier point in time. These companies were of a larger size, with a high volume of applicants, and thus needed the process to become more manageable. This is similar to what Chapman and Webster (2003) found in their study, suggesting that the adoption sometimes is based on the simple notion of enabling the use of a new screening tool. However, apart from that, no similar factor of influence can be found in the academic literature.

Another factor mentioned as inherent in the adoption decision, is the process improvement in terms of being able to give the candidate instant feedback, as suggested by Nikolaou and Foti (2018). This could be related to both the need to give the candidates a good experience, but also to ultimately project a positive image of the organization in the mind of the applicant.

While previous studies have found that the element of reduced costs has been an important factor in the adoption (Chapman and Webster, 2003; Parry and Tyson, 2008; Kashi et al., 2016), there is no evidence in this study for this to be

a pressuring element. However, one mentions how the gain in terms of less man-hours and, in extension, a reduced cost, was a reason for adoption. Nevertheless, rather than being motivated by monetary savings, the organizations are evidently more driven by other factors. As previously mentioned, Chamorro-Premuzic et al. (2016) describe a picture of practitioners being more concerned about costs and candidate experience, rather than test accuracy. While being utterly concerned about the candidate experience, reduced costs from process improvements is not a pressing factor for these organizations.

Process Improvements as an Outcome of Implementation

The respondents did not have much to tell at this stage, as the elapsed time was too short and the evaluations had not been concluded. However, while not described as a desired outcome by the respondents, nor found in academic research, one experienced outcome was related to the retention rate within the hiring process. While one respondent describes a positive outcome, another experience was less positive. Many applicants conducting the assessment test simultaneously put pressure on the supplier's test servers, resulting in a higher level of drop-outs. This notion about technology is something that researchers have overlooked in relation to gamified assessment tests. Researchers raise the consideration about demographics and how an older audience can experience the tool less positive than younger ones (Ferrell et al., 2016), and how the assessment if perceived as unfair will mean that candidates develop negative feelings towards the selection system (Armstrong, 2016a). Based on the technical issues described in this study, the discussion about technology issues and the consequences in terms of candidate experience, becomes significant.

Diversity

Diversity as a Motivational Factor

Some organizations point to diversity as a factor in the adoption. The respondents express a belief in the tool as a mean to reduce bias and produce a more diverse group of candidates. The very discussion about validity is that a tool should accurately measure what is intended to be measured (Andersson et al., 2016), which is related to the element of subjectivity. Researchers explain that on average, interviewers make up their mind about the candidate in less than four minutes (Compton et al., 2009), indicating that the interview is a highly subjective prediction. However, on the notion of suggested benefits of the gamified assessment tool, diversity is not a parameter raised in research.

Diversity as an Outcome of Implementation

While some respondents mention diversity as a motivational factor, far more experience this element as a positive outcome. Several describe the outcome of diversity and fairness, some in the form of reducing bias and being inclusive to those who otherwise would not have progressed through the process. Others mention the positive result of a more heterogenic group of candidates. In addition, one candidate raises the specific outcome of having a doubled number of females making it to the final assessment center. For some reason, the female applicants were enabled to score better results with this new and gamified assessment test and progress in the hiring process. This is interesting as Landers and Armstrong (2015) and Bauer et al. (2006) mention that those with more experience with using a technology develop a more positive reaction to it.

Validity

Validity as a Motivational Factor

The academics raise concerns with regards to how research is lagging behind practice in terms of establishing the validity and accuracy of these gamified assessment tests (Ryan and Ployhart, 2014, Ferrell et al., 2016; Chamorro-Premuzic et al., 2017, Deros and De Fruyt, 2016). This study, however, shows how practitioners' supposed lack of attention to validity concerns is not an all true reality. While some showed less concern over the validity of the assessment, some respondents mention the importance of an objective and science based method, and how the validity was a big concern prior to adoption, especially in relation to the Type A tool. However, several mention how the validity either had to be balanced with the candidate experience, or how it was a parameter that could not be evaluated until after implementation.

Moreover, the respondents highlight the consideration of face validity, and thus maintain that the assessment was mostly relevant in conjunction with younger candidates. This shows that the organizations are considering the element of candidate demographics, in how an older generation might have a less positive experience than the younger one (Ferrell et al., 2016).

Lastly, many organizations implemented the assessment tool in the form of a pilot, to be assessed after its first use, which is an interesting finding. In doing this, one can interpret that the organizations themselves took on the role as evaluators of the test's validity.

Validity as an Outcome of Implementation

As the empirical findings depict, the respondents experience the validity results in various ways. Some respondents explain how the results were “spot on” in terms of accuracy, while others describe poor results when comparing them to the results from other tests that were used in conjunction. Considering the fact that respondents are using different tools, the validity might very well differ because of merely that reason. However, the validity of gamified assessment tools is questionable and calls for more investigation according to researchers (Ryan and Ployhart, 2014, Ferrell et al., 2016; Chamorro-Premuzic et al., 2017, Derous and De Fruyt, 2016). These varying outcomes indicate that the validity, at least in these particular tools, needs to be improved. Even though the respondents experiencing a poor result explain that other tests were used in the process as a safety parameter, and that the gamified tool never was the only way to assess the candidates, this is still a disturbing result – not for these specific organizations, but for other organizations who might adopt a similar tool without the same level of caution and awareness.

5.4. Discussion

With several interesting empirical findings, and an analysis of the various dimensions which seem to have been influential on the decision to adopt a gamified assessment tool, this last part will answer the research question:

Why do organizations decide to invest in gamified assessment tools, and what is the experienced outcome of implementation?

With the literature on gamified assessment tools and organizations’ adoptions thereof concluded to be sparse, it was deemed necessary to lend support from adjacent fields of theory. This was proven to be valuable as a guidance in the analysis, as it has acted as a pre-understanding of what could be possible motivations and sources of influence. While findings partly correspond to previous research in related fields, several aspects have not found support in literature, and thus seem to pertain to the context of this particular tool. Moreover, several factors supposedly important in the other fields, have not proven relevant in the case of the gamified assessment tool.

5.4.1. Why do organizations decide to invest in gamified assessment tools?

The investigation demonstrates how several factors have impacted the decision to invest in a gamified assessment tool. All three overarching elements: the environment, the organization and the innovation itself, have

played their part. The environmental pressures, for which most support was found, included the societal trend and technological change (Kossek, 1987) as well as pressures from the supply side (Kossek, 1987; Som, 2007), and the factor of candidate demographics (Holm, 2014). While these are all proposed to be strong forces by researchers, with Deros and De Fruyt (2016) depicting technological advancements as the underlying reason for the tool's very existence, this is not a very surprising result. What deviates from earlier research (DiMaggio and Powell, 1983; Kossek, 1987; Harris et al., 1990; Johns, 1993; Klehe, 2004; Parry and Tyson, 2008; König et al., 2010; Kashi et al., 2016) is the perceived low significance of competitor mimicry as an influencing factor for gamified assessment tool adoption. On the contrary, decisions appear to be more driven by the desire to be a first mover than by competitive pressure.

Internally, a supporting culture and management support (Wolfe, 1995; Som 2007; Kashi et al., 2016), were found to be of uttermost relevance. In terms of characteristics, many respondents portray the culture as open to change, innovative and encouraging, pushing the respondents in finding new ideas. Lastly, the innovation itself proved influential in that it was presumed to provide an improved candidate experience (Ferrell et al., 2016) and generate a positive employer branding effect (Chow and Chapman, 2013; Chapman and Mayers, 2015; Armstrong et al., 2016a; Deros and De Fruyt, 2016; Nikolaou and Foti, 2018).

In relation to the above-mentioned findings, it becomes interesting to consider how these elements relate to each other, and together support the decision of adopting the gamified assessment tool. For instance, there seems to be a clear connection between a) the societal trends and technology change, the younger generation and its assumed willingness and readiness to use technology, and b) the most pertinent desired outcomes: improved candidate experience and brand image. In being fun, engaging and modern, organizations seem to aim at answering up to the expectations of the candidates. Moreover, the organizational strategy, culture and management aspects ties into this. The culture for many respondents seems to be highly receptive to new ideas and thus the societal trends and candidate expectations. In terms of strategy, many report an outspoken strategic agenda in the form of being digital and innovative, showing further alignment with the internal side of the organization. There seems to be a strong compatibility (Kashi et al., 2016) between these elements, nurturing the adoption of the new tool.

Turning to theory, suppliers are proposed to have a very strong influence on the adoption (Kossek, 1987; Som, 2007), also evident in this study. Trust between the supplier and adopter tended to work as a decisive force among

several respondents – trust that many times was based on an already established connection between the respondent and supplier organization. One can relate to how Compton et al. (2009) practitioners tend to make up their mind about a candidate within four minutes into the interview, and thus how decisions can find support from less objective forces.

While validity should be the predominant reason for adopting an assessment tool (Andersson et al., 2016), researchers fear how practitioners are taking on the gamified assessment tool despite the lack of validity research (Ryan and Ployhart, 2014, Ferrell et al., 2016; Chamorro-Premuzic et al., 2017, Deros and De Fruyt, 2016). Therefore, one could believe that validity was not to be a pressuring factor in the decision to adopt the gamified assessment tool. Interestingly, many respondents were in fact quite concerned about the validity prior to implementation, and had a conscious way to manage this. By implementing the tool as a pilot, respondents describe how the tool was to be tested and afterwards evaluated. Moreover, several explain that the tool never was used in an isolating and de-selecting manner, and the process often was complemented with traditional tools as a safety net. This shows how many took on the role themselves as evaluators of validity, and with that in mind could make the decision to try it out.

One must raise a concern of always striving to be at the forefront and wishful in trying new things. With a problem of a research-practice gap mentioned by many researchers (Taylor et al., 2002; Ryan and Tippins, 2004; Lievens and De Paepe, 2004; Deadrick and Gibson, 2009; Ryan and Deros, 2016,) and academics generally lagging behind practitioners, one could ask if these organizations in trying to be first, hinder themselves in using fully valid tools. However, someone must be first, and these organizations could be deemed valuable in determining the functionality of new ideas. This adds to the discussion of validity, as these organizations have a high value in their way of conducting business on a trial-and-error basis. While academia is calling for more research, practitioners who are pro-active in their way of taking the lead through trial-and-error methods generate great empirical value for further research.

To conclude, society, candidate demographics, the suppliers, the internal culture and management, as well as the strive to deliver a positive candidate experience and project a positive brand image, are together the answer to why organizations in this study decide to invest in gamified assessment tools.

5.4.2. What is the experienced outcome of implementation?

The experienced outcomes varied in terms of being both positive and negative. Many positive outcomes are aligned with what is proposed by literature. Specifically, the positive candidate experience (Ferrell et al., 2016) stands out as a coherent result. While organizations also connect this to the result of a positive brand image, the type of candidate attitude change this experience has resulted in, is not possible to conclude. In terms of process improvements, not enough time had passed for many to give a concluding picture.

Especially the finding on diversity and females is highly interesting, as one could assume that the individuals with most gaming experience predominantly are males. Support for this element of the gamified assessment tool as a better fit for females, in comparison to traditional assessment tools, cannot be found in academia. Moreover, using the gamified assessment tool to reduce bias, is not directly being address in the literature on gamified assessment tools, which is why this finding calls for more research on its usefulness and underlying mechanisms supporting this element of diversity.

6. CONCLUDING REMARKS

The concluding section describes how this study contributes to the theoretical field, as well as how it adds value in terms of managerial implications. A subsection will thereafter present limitations that have to be accounted for, and ends with a description of future research opportunities.

6.1. Theoretical Contribution

In combining the fields regarding the general choice of assessment tools, innovative HRM practices, and the existing theory on gamified assessment tools, this study has contributed to the theoretical field in several ways. First and foremost, with this empirical study, the field of gamification in HRM and more specifically in selection, has been enriched with an understanding of why organizations decide to adopt a gamified assessment tool and its experienced outcome. This extends the field from being highly argumentative, to contain findings from real life practice. Several parameters from the three overarching levels: the environment, the organization, and the innovation, have showed to be strong forces, and together explaining why organizations decide to take on the new tool. The main underlying mechanisms from the various levels that have been found are 1) the societal trend and technological advancements, the candidate demographics and the suppliers, 2) the culture and the management, as well as 3) the most desired outcomes in terms of driving a positive brand image and delivering a positive candidate experience.

6.2. Managerial Implications

The study provides several managerial contributions, both in terms of the adopting side, as well as the supply side. There are several proposed benefits from adopting a gamified assessment tool. However, this study extends these propositions and illustrates how organizations actually experience the value after implementation. This is highly valuable for organizations considering adoption of a gamified assessment tool, especially given that the outcome has not only proven to be positive, as it provides empirically supported guidance on both decision-making and expectations management. With regards to the supply side, the study has generated a deeper insight in to what forces that contribute to the decision to invest in gamified assessment tools, and in addition added to their current insights on how users perceive the outcome. This can be very valuable for the suppliers' efforts to further improve and develop the tools.

6.3. Limitations

Nothing comes without limitations. In terms of this study, one limitation is that the gamified tools that this study investigates vary in terms of the level of the tool being “gamified”, meaning how close or far away they are in terms of being a full-fledged game.

On a second note, the respondent organizations operate in different geographical markets, various industries, and are of varying sizes, which puts some limits on the analysis and makes the results less generalizable than what would have been optimal for maximum representativeness.

Lastly, this study is of a holistic nature, taking an open stance to several parameters on various levels of analysis. While positive in shedding light on many aspects inherent in the adoption, it also means that some elements are only reviewed on the surface.

6.4. Further Research Opportunities

This study has generated many interesting insights, yet as this field is of a highly nascent state, there are several possibilities in terms of further explorations. Firstly, this study takes a holistic and exploratory approach, why there is an opportunity to conduct research with a more focused approach. For example, it has been found that the suppliers have played a great part in the decision, why it would be interesting to further investigate their role as a bridge between academia and practice. Certain factors not explored in this study, such as level of unionization, could also for instance further be studied if for instance the geographical scope was limited.

Another future research opportunity would be to investigate the gamified assessment tool and its adoption when more time has elapsed. It was shown that many organizations not yet had been able to conduct a lot of evaluations, why such a study would enrich the understanding of the outcome of implementation.

Lastly, it has been shown that the validity of the gamified assessment tool varied when evaluating its outcome. Therefore, further investigations of specific tools and their level levels of validity are perceived as valuable.

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III. APPENDICES

Appendix 1: Pre-study Interviews

Date	Location	Respondent	Role	Interview type
26.09.2017	Stockholm, Sweden	Supplier 1	Consultant	Face-to-face
28.09.2017	London, UK	Supplier 2	Head of Growth	Skype
05.10.2017	Athens, Greece	Supplier 3	CEO / Co-founder	Skype
10.10.2017	London, UK	Supplier 4	Managing Director	Skype

Appendix 2: Main-study Interviews

Date	Location	Respondent	Industry	Interview type	Tool
24.10.2017	Denmark	Respondent 1	FMCG	Skype	Type A
25.10.2017	UK	Respondent 2	Telemarketing and Sales	Skype	Type A
26.10.2017	Sweden	Respondent 3	Accounting	Face-to-face	Type B
30.10.2017	Denmark	Respondent 4	FMCG	Skype	Type A
08.11.2017	Sweden	Respondent 5	IT	Face-to-face	Type B
08.11.2017	Sweden	Respondent 6	Digital Accounting	Face-to-face	Type B
09.11.2017	Sweden	Respondent 7	IT	Face-to-face	Type A
09.11.2017	Australia	Respondent 8	Banking	Messenger	Type A
10.11.2017	Finland	Respondent 9	Sales Intelligence	Skype	Type B
15.11.2017	UK	Respondent 10	Manufacturing	Skype	Type A
16.11.2017	France	Respondent 11	Insurance	Skype	Type A
20.11.2017	UK	Respondent 12	IT Consulting	Skype	Type A
21.11.2017	Sweden	Respondent 13	Recruitment and Staffing	Telephone	Type B

Appendix 3: Interview Guide

1. Background and role of the respondent
2. Overview of the hiring process – previous and current
3. What is on the organization's strategic agenda?
4. What kind of gamified assessment tool have you adopted?
5. Why did you decide to adopt a gamified assessment tool?
6. What criteria did you consider in the adoption of the tool?
7. How was the decision made and who were involved?
8. Where did the idea of adopting a gamified tool originate from?
9. How did you consider various test suppliers?
10. How did you approach the tool's validity?
11. How are competitive organizations conducting hiring practices?
12. How have you evaluated the tool?
13. What has been the outcome of implementation so far?