BUILDING STRONG EMPLOYER BRANDS: THE ROLE OF GAMIFICATION

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Isabel Buil: Conceptualization, Methodology, Writing – original draft, Writing – review & editing; Sara Catalán: Conceptualization, Formal analysis, Writing – original draft, Writing – review & editing; Blanca Hernández-Ortega: Investigation, Project administration, Writing – original draft, Writing – review & editing.

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Building strong employer brands: the role of gamification

Abstract

Purpose: In recent years, organizations have increasingly used gamification in their recruitment processes. Surprisingly little is known about how the application of gamification in this context can affect employer branding outcomes. This research extends previous findings by investigating the influence of motivational affordances included in a gamified activity used during recruitment on individuals' engagement and how this, in turn, affects employer familiarity, employer reputation, and organizational attractiveness.

Design/methodology/approach: Data from participants in a gamified recruitment process based on an escape game were analysed using partial least squares structural equation modelling.

Findings: The results indicate that engagement is particularly fostered when individuals interact with achievement and progression affordances that provide them with clear tasks and structured challenges. Likewise, the interaction with social affordances in gamified recruitment is highly encouraged, either through cooperation with team members or competition among teams or participants, providing opportunities for social dynamics that enhance engagement. Once engagement is fostered, it positively relates to employer familiarity and employer reputation. Employer familiarity positively predicts employer reputation, which subsequently promotes organizational attractiveness.

Originality: This paper represents one of the first published attempts to empirically examine the relationship between gamification and employer branding.

Article classification: research paper

Keywords: employer branding, gamification, motivational affordances, engagement, employer familiarity, employer reputation, organizational attractiveness

1. Introduction

Employer branding, defined as "the process of building an identifiable and unique employer identity" (Backhaus and Tikoo, 2004, p. 502), has become a top priority for companies (Azhar *et al.,* 2024). Since this term was introduced by Ambler and Barrow (1996), a rich body of literature has developed on the application of brand management techniques to human resource management.

This process focuses on attracting, motivating, recruiting, and retaining potential and current employees (Saini *et al.,* 2022), and plays a key role in ensuring a total employer brand experience (Foster *et al.,* 2010). Effective employer branding encourages employees to align their skills with their roles (Al-Romeedy *et al.,* 2025) and improves their commitment to the organization and their job satisfaction (Jaffari *et al.,* 2024). Building a strong employer brand also provides other benefits, such as developing brand equity among employees (Kaur *et al.,* 2024), enhancing organizational attractiveness (Kashive and Khanna, 2017), attracting applicants and influencing job choice (Lievens and Slaughter, 2016), and increasing employee retention (Chopra *et al.,* 2024), all of which may, in turn, improve firm performance. Done well, all these benefits can enable organizations to achieve a competitive advantage (Ronda *et al.,* 2018).

In the current competitive job market, a solid employer brand strategy is essential to differentiate the brand and stand out among the competition (Randstad, 2024). Despite this, many organizations fall short in their employer branding efforts, with a recent study indicating that only about one in three has a well-developed and consistently applied employer branding strategy (HR Research Institute, 2025). According to The State of Employer Brand 2023, 76% of employees investigate the company's employer branding and 96% show a greater inclination to apply to organizations with strong employer brands. 92% of employees also consider leaving

their current jobs if they find out that another company has a better reputation (Seenit, 2023). These figures highlight the importance of building and managing a strong employer brand.

One promising way of creating a solid employer brand is through gamification (Küpper *et al.,* 2021) – that is, the "process of enhancing a service with affordances for gameful experiences in order to support users' overall value creation" (Huotari and Hamari, 2017, p. 25). The use of game-based approaches in non-game contexts, such as the workplace in general, and employee recruitment and employer branding activities in particular, is increasing. Large multinationals, including Deloitte, McKinsey, Shell, and Unilever, have already incorporated these strategies. Institutions such as the armed forces have long employed gamification in their recruitment processes to attract junior personnel too.

Gamification can be effective across various domains, including education, healthcare, and marketing. Individuals' perceptions of gamified systems may be, however, strongly influenced by the nature of the activity and the specific circumstances in which the systems are applied (Koivisto and Hamari, 2019). Previous studies have shown that motivational affordances can influence psychological and behavioural outcomes in different ways (Sailer *et al.,* 2017; Kunkel *et al.,* 2023). Given that the dynamics in recruitment are unique and may differ from those in consumer-facing applications, it is worth investigating the use of gamification in building strong employer brands and exploring whether different motivational affordances oriented towards achievement and progression, socialisation and immersion are equally effective.

To date, research on gamification in recruitment and assessment processes has primarily focused on validating gamified assessment methods and examining participants' reactions (see Table I). Surprisingly, despite its potential, few empirical studies have examined the relationship between gamification and key employer branding constructs (Bhawna *et al.,* 2025; Kashive *et al.,* 2022). Investigations into the impact of gamified recruitment and selection processes on organizational outcomes have largely concentrated on organizational

attractiveness (e.g., Buil *et al.,* 2020; Georgiou and Nikolaou, 2020; Georgiou and Lievens, 2022; Gkorezis *et al.,* 2021; Landers *et al.,* 2020). These works typically adopt a broad perspective, often ignoring an employer branding approach (Theurer *et al.,* 2018). Given that individuals may hold different types of knowledge about potential employers, including employer familiarity and reputation (Cable and Turban, 2001), a deeper analysis of the impact of gamification on additional employer branding constructs –beyond organizational attractiveness– could provide valuable and novel insights to this stream of research.

This study builds on existing literature and seeks to enhance the understanding of how gamified recruitment can affect employer branding outcomes. Specifically, and given that engagement has been suggested as a potential underlying mechanism that explains how gamification influences employer branding outcomes (Kashive *et al.,* 2022; Küpper *et al.,* 2021), the study analyses the effects of motivational affordances on engagement and its subsequent effect on employer familiarity, employer reputation, and organizational attractiveness. This research focuses on young talent, a key target in recruitment strategies, as newer generations tend to be highly receptive to gamified and digital experiences (Koivisto and Malik, 2021), but also exhibit distinct characteristics that pose new challenges for organizations (Deloitte, 2024; Rider, 2024).

The paper contributes to the literature in several ways. While companies are increasingly adopting gamified recruitment practices, the existing body of knowledge remains limited and presents mixed results (Ramos-Villagrasa *et al.,* 2022). Studies that specifically analyse the interrelationship between gamification and employer branding are also still scarce. This research seeks to advance the understanding of the role that gamification plays in strengthening employer brands by examining not only how it enhances employer attractiveness but also its impact on other key dimensions of employer brand knowledge, such as familiarity and reputation. Moreover, it investigates the influence of different motivational affordances on

these variables through engagement, offering valuable insights into which affordances may be more effective in strengthening employer brand knowledge. This study provides practical implications for organizations seeking to increase their familiarity, reputation and attractiveness to prospective employees.

2. Literature review

Gamification refers to the application of game-design elements and game principles in non-game contexts to enhance user motivation and engagement. In intra-organizational settings, it can lead to favourable outcomes, such as higher employee motivation (e.g., Mitchell *et al.,* 2020) and learning outcomes (e.g., Armstrong and Landers, 2018). Gamification can also be used to strengthen employer branding (Bhawna *et al.,* 2025; Küpper *et al.,* 2021), positioning the organization as an attractive and innovative place to work.

An employer brand is "the package of functional, economic and psychological benefits provided by employment, and identified with the employing company" (Ambler and Barrow, 1996, p. 187). Analogous to corporate brands, which make a promise to their customers about their products and services, employer brands make a promise to their prospective and current employees about the experience they will have in the organization (Backhaus, 2016). The objective of employer branding is promoting, both internally and externally, a clear view of what makes an organization different and desirable as an employer (Lievens, 2007). Gamification can support employer branding within key processes such as training and performance management. One of its most interesting applications lies in recruitment and selection processes (Nikolaou, 2021).

Gamified recruitment integrates game design elements, mechanics, and techniques as motivational tools throughout the recruitment process (Leutner *et al.,* 2023). This approach

encourages positive psychological responses from applicants (Collmus *et al.,* 2016) and can improve the job performance prediction by reducing the traditional methods' inferential leaps (Georgiou *et al.,* 2019). Gamified recruitment can be complex and challenging, often requiring a substantial investment of resources from recruiting organizations (Gupta *et al.,* 2022). In recent years, it has gained significant attention for its ability to attract, identify, and evaluate applicants' skills (Landers and Sánchez, 2022).

Despite the growing body of research on gamified recruitment, studies examining the impact of gamification on employer branding within the recruitment and selection phase remain limited. Among the most recent studies investigating the use of gamification in recruitment and assessment processes (see Table I), only a few have explicitly examined the relationship between gamification and employer branding. In a qualitative analysis, Kashive *et al.* (2022) analyse online reviews, finding positive but also negative sentiments linked to game-based assessments. More recently, Bhawna *et al.* (2025) confirmed a positive association mediated by intrinsic motivation and job autonomy.

Most existing research has focused on analysing the validity of game-based assessments and investigating applicants' reactions. Some studies highlight concerns, such as the potential for unintended construct measurement (Wu *et al.,* 2022) and the lack of convergence between the gamified assessments and the original measures (Landers and Collmus, 2022). Other studies suggest that game-based assessment can maintain a high degree of psychometric rigor while providing compelling experiences to job candidates (Leutner *et al.,* 2023; Ramos-Villagrasa *et al.,* 2023, 2024). Concerning applicant reactions, prior research indicates that gamified assessments are better accepted by applicants (Hommel *et al.,* 2022) and tend to enhance process satisfaction and fairness perceptions (Georgiou and Nikolaou, 2020), willingness to recommend the company (Ellison *et al.,* 2020), perceptions of organizational technological

sophistication (Landers *et al.,* 2020) and organizational attractiveness (e.g., Buil *et al.,* 2020; Georgiou and Nikolaou, 2020; Georgiou and Lievens, 2022).

< Table I about here >

3. Conceptual framework and research hypotheses

This paper draws on the "motivational affordances–psychological outcomes–behavioural outcomes" framework (Hamari *et al.,* 2014; Koivisto and Hamari, 2019) to examine how gamification in recruitment processes can affect employer branding outcomes. Gamification involves enhancing a service with affordances that facilitate gameful experiences (Huotari and Hamari, 2017). In the gamification context, the concept of affordance refers to "the elements and mechanics that structure games and help induce gameful experiences within systems" (Koivisto and Hamari, 2019, p. 193). Through users' voluntary interaction with these affordances, this study proposes that gamification fosters psychological outcomes such as increased engagement (Koivisto and Hamari, 2019) and employer brand outcomes (Cable and Turban, 2001).

Figure 1 presents the proposed model. Specifically, the model predicts that the motivational affordances included in a gamified activity used during recruitment will be positively associated with individuals' engagement. This, in turn, is proposed to positively influence two important employer branding outcomes: employer familiarity and employer reputation. The effect of familiarity on reputation is also explored and the impact of these variables on organizational attractiveness is analysed.

< Figure 1 about here >

Motivational affordances can be categorized into three types: achievement and progression-oriented affordances, social-oriented affordances, and immersion-oriented affordances

(Koivisto and Hamari, 2019). Briefly, achievement and progression-oriented affordances aim to enhance users' sense of accomplishment, and include popular game elements such as points, challenges, tasks, badges, performance feedback and leader boards. Social-oriented affordances allow users' social interaction and include elements such as cooperation and competition. Immersion-oriented affordances attempt to immerse users in self-directed inquisitive activities, and include the use of narratives, avatars or profiles (Koivisto and Hamari, 2019; Xi and Hamari, 2020). These affordances contribute to the development and enhancement of user-specific cognitions and emotions, which in turn foster the desired outcomes (Nawaz *et al.,* 2023).

Engagement is one of the most important psychological outcomes for capturing users' responses to gamification affordances (Zhang *et al.,* 2023). From a marketing perspective, engagement is defined as "a psychological state that occurs by virtue of interactive, co-creative customer experiences with a focal agent/object (e.g., a brand) in focal service relationships" (Brodie *et al.*, 2011, p. 260). Engagement can occur with different subjects and objects (Dessart *et al.,* 2016; Hollebeek *et al.,* 2022). As such, extant research has investigated the impact of gamification on several subjects (e.g., student engagement, customer engagement, employee engagement, user engagement) and objects (e.g., brands, mobile apps, gamified systems) (see Bitrián *et al.,* 2021 for a review) using a wide range of theoretical frameworks.

The most prominent theories used to explain how gamification fosters motivation and engagement are the self-determination theory (SDT; Deci and Ryan, 2000) and the flow theory (Csikszentmihalyi, 1975). The SDT emphasizes the role of intrinsic motivation, suggesting that gamified experiences enhance engagement by fulfilling individuals' psychological needs for autonomy, competence, and relatedness. On the other hand, flow theory explains how gamification creates an optimal experience. Together, these theories provide a strong foundation for the relationship between gamification and engagement (Malik *et al.,* 2025).

Research across various contexts highlights the crucial role of motivational affordances in driving positive engagement. For instance, gamified interactions that are highly interactive and challenging positively influenced emotional and cognitive brand engagement (Berger *et al.,* 2018). Similarly, in online brand communities, achievement and social affordances were positively associated with brand engagement (Xi and Hamari, 2020). More recently, it has been shown that motivational affordances (i.e., rewards, competition, feedback and cooperation) included in mobile payment platforms (Zhang *et al.,* 2023) and gameful experiences in branded sports apps (Habachi *et al.,* 2024) positively affected user and customer brand engagement, respectively. This leads to the following hypotheses:

H1. Achievement and progression-oriented affordances are positively related to engagement.

H2. Social-oriented affordances are positively related to engagement.

H3. Immersion-oriented affordances are positively related to engagement.

As previously mentioned, gamification shapes key experiential aspects, including enjoyment, flow, and engagement (Hamari *et al.,* 2014). Engagement, in particular, has been identified as a potential underlying explanatory mechanism for the impact of gamification on outcomes, such as digital sales (e.g., Eisingerich *et al.,* 2019), mobile shopping intentions (e.g., de Canio *et al.,* 2021), and employer branding (Kashive *et al.,* 2022; Küpper *et al.,* 2021). Increased engagement in gamification helps individuals recognize its benefits, leading to improved perceptions of the gamified system, their jobs, and the organization, which ultimately results in more positive attitudes (Bizzi, 2023). The present research investigates three employer branding outcomes: employer familiarity, employer reputation and organizational attractiveness.

Drawing on the brand equity literature (Aaker, 1991; Keller, 1993), employer familiarity is defined as "the level of awareness that a job seeker has of an organization" (Cable and Turban, 2001, p. 124). As widely recognized in the branding literature (Aaker, 1991; Keller, 1993; for

a recent review on brand equity see also Parris and Guzmán, 2023), both awareness and familiarity have been used as components of brand equity. Prior research in the marketing literature has shown that consumer-based brand equity (e.g., Hepola *et al.,* 2017; Rather *et al.,* 2024) and its dimensions (e.g., Algharabat *et al.,* 2020), such as brand awareness and familiarity, are important outcomes of customer brand engagement. In the gamification context, studies have also demonstrated that individuals' engagement positively influences brand awareness, both in online gamified brand communities (Xi and Hamari, 2020) and in the adoption of gamification by travel agencies (Abou-Shouk and Soliman, 2021).

Employer reputation refers to a "job seeker's beliefs about the public's affective evaluation of the organization" (Cable and Turban, 2001, p. 127). As acknowledged in the literature, engaged customers can contribute not only to the recognition of a brand, but also to its long-term reputation (Van Doorn *et al.,* 2010). Extant research has recognized that consumers' engagement with companies' social media activities is positively associated with corporate reputation (Dijkmans *et al.,* 2015). Consumer engagement with brand communities in social media has also been found to positively influence corporate reputation (Ferreira and Zambaldi, 2019) and user engagement has been identified as a key factor influencing firms' reputation in the context of social media communication (da Silva *et al.,* 2021).

Consistent with these studies, it is expected that engagement experienced by individuals will be positively associated with employer familiarity and employer reputation. The following hypotheses are proposed:

H4. Engagement is positively related to employer familiarity.

H5. Engagement is positively related to employer reputation.

Employer familiarity is a necessary, although not sufficient, condition for an employer brand to have value. Without familiarity, users cannot collect and store knowledge about an employer

(Theurer *et al.,* 2018). Employer familiarity is a precursor of employer reputation (Cable and Turban, 2001; Theurer *et al.,* 2018), as it tends to lead individuals to perceive the organization as a legitimate employer. Consequently, they are more likely to believe that others in society also hold a positive view of the employer. The following hypothesis is proposed:

H6. Employer familiarity is positively related to employer reputation.

One of the most important consequences of employer familiarity and employer reputation is organizational attractiveness (Cable and Turban, 2001). This is defined as "an attitude or expressed general positive affect toward an organization, toward viewing the organization as a desirable entity with which to initiate some relationship" (Aiman-Smith *et al.,* 2001, p. 221). Prior research in the recruitment context has found that organizations that have higher familiarity are perceived as more attractive (e.g., Lievens *et al.,* 2005; Turban and Greening, 1997) and benefit from a higher intention to apply (Saini *et al.,* 2014). Applicants perceive familiarity with the employer brand as a sign of legitimacy, leading them to view the employer more favourably compared to unfamiliar organizations (Gatewood *et al.,* 1993).

Employers with favourable reputations are also more attractive to individuals (Cable and Turban, 2001). Based on social identity theory (Ashforth and Mael, 1989), it has been argued that organizations with a strong and positive corporate reputation are more likely to foster applicants' identifications with the company, which enhances the attractiveness of an employer brand (Xie *et al.*, 2015). Empirical research has confirmed this relationship; for instance, it has been found that employer reputation (in the form of trait inferences) is positively associated with the attractiveness of the armed forces (Lievens *et al.,* 2005), and has also been demonstrated to be a significant predictor of attractiveness (Kashive and Khanna, 2017). The following hypotheses are proposed:

H7. Employer familiarity is positively related to organizational attractiveness.

H8. Employer reputation is positively related to organizational attractiveness.

4. Methodology

4.1. Data collection and participants

Data were collected through an online questionnaire completed by participants in a gamified recruitment process, called “The Talent Games”, organized by a Spanish firm that specializes in technology consulting and talent management. This initiative also involved the participation of 18 collaborating companies that were actively seeking to recruit new employees.

The Talent Games utilized an escape-game format designed to attract and recruit young talent, targeting students who had not yet entered the labour market. Participants were divided into groups of three to foster collaboration and provide social benefits through peer support. Each group was required to complete six challenges, which allowed the organizing firm to evaluate a range of soft skills including analytical capacity, adaptation to change, teamwork, sustainability, responsibility, creativity, logical thinking and communication.

The escape game took place at various external locations, and each group received instructions via a mobile application designed to facilitate and monitor the game. This app provided continuous guidance to the participants, revealing the location of the next challenge upon successful completion of the previous one. In the last challenge, groups were tasked with designing a new product using basic materials provided by the organizing company, within a limited time frame, and in a designated workspace. Afterward, they presented their proposal to one of the collaborating companies involved in The Talent Games. Company representatives listened to the presentations and asked questions for further evaluation.

Once The Talent Games were over, the organizing firm analysed the results obtained from all groups, identifying those that achieved the top three positions. The individuals in these teams received at least one job offer from the collaborating companies.

The call for participation in The Talent Games was disseminated through various social media platforms, including Facebook, LinkedIn, and Twitter (now X), by the organizing firm. This firm visited several faculties and emails were sent to students explaining the escape game and encouraged them to participate as well. Interested participants had to register through an online platform in order to join the initiative.

The Talent Games took place on 16 March 2023, attracting a total of 615 participants who formed 205 groups. Participants were from different fields of knowledge: 257 (41.8%) from social sciences and humanities, 175 (28.5%) from engineering and technology, 160 (26%) from natural and formal sciences, and 23 (3.7%) from health and life sciences. A total of 534 (86.83%) participants were undergraduate students while 81 (13.17%) were pursuing graduate studies.

Data collection was carried out through an online survey, which allowed participants to evaluate different aspects of the escape game: motivational affordances, engagement, and their perceptions of employer familiarity, employer reputation, and organizational attractiveness following their participation in The Talent Games. Each participant had to respond about these perceptions considering the collaborating company they had interacted with during the last challenge. The specific identities of the companies cannot be disclosed due to confidentiality reasons. Participants who completed the entire escape game and could provide a comprehensive assessment of their experience were contacted via email and asked to respond to the questionnaire individually. Participation in the study was entirely voluntary and the process ensured anonymity and data confidentiality. Data collection took place during the second half of March 2023, before the results of The Talent Games were published.

After eliminating incomplete and invalid questionnaires, a total of 186 valid responses were obtained. The software G*Power v3.1.9.7 was used to assess the appropriateness of the sample size. For an effect size of 0.15, with the alpha error probability at 0.05, and a statistical power of 95%, a total sample size of 119 would be required. The number of valid responses obtained in this study exceeded this minimum requirement, confirming that the sample size was adequate.

Of the respondents, 57% were men, with ages between 18 and 29 years (mean = 20.78; SD = 2.51). More precisely, 38.7% of the sample was aged between 18 and 19, 44.6% were between 20 and 22, and 16.7% were older than 22.

4.2. Measurement instrument

All the research constructs were measured using multi-item scales adapted from previous literature (see Table II) and were evaluated on a 7-point Likert-type scale ("1 = completely disagree" to "7 = completely agree").

To measure the motivational affordances, a careful analysis of The Talent Games was conducted, resulting in a set of nine distinct affordances. These were grouped into the three categories – i.e., (1) achievement and progression, (2) social and (3) immersion – following the classification of motivational affordances provided by Koivisto and Hamari (2019). Achievement and progression affordances were represented by challenges, tasks, feedback, points and timing; social affordances manifested in competition and cooperation; and immersion affordances were found in relation to narrative and objects. Each motivational affordance was measured according to the importance that individuals attached to the interaction with each game element, following Xi and Hamari (2019).

Participants' engagement with The Talent Games, taking into account the cognitive and affective dimensions in line with Berger *et al.* (2018), was measured using items from Rotgans

and Schmidt (2011) and Skinner *et al*. (2009), respectively. Participants' employer familiarity, employer reputation and organizational attractiveness after their participation in The Talent Games were measured using the scales of Collins (2007), Ehrhart *et al.* (2012) and Highhouse *et al.* (2003), respectively.

< Table II about here >

4.3. Common-method bias assessment

As data were based on self-reported measures and collected through a one-time survey, common-method bias was assessed using both procedural and statistical methods (Podsakoff *et al.,* 2012).

Regarding procedural methods, participation in the study was voluntary, and anonymity and data confidentiality were assured. To prevent respondents from inferring cause-effect relationships, the dependent and independent variables appeared on separate screens within the survey. Concerning statistical methods, the full collinearity approach (Kock, 2015) was applied by assessing the variance inflation factor (VIF) values for all latent variables in the model. The approach did not indicate common method bias issues since all VIF values ranged between 1.012 and 2.668, which is below the threshold of 3.3 (Kock, 2015).

5. Analysis and results

The proposed model was analysed using partial least squares structural equation modelling (PLS-SEM) with SmartPLS version 4.1.0.9 software (Ringle *et al.,* 2024). The recommended steps proposed by Hair *et al*. (2020) for confirmatory composite analysis were followed to assess the measurement and structural models.

5.1. Measurement model assessment

The proposed model includes reflective (i.e., engagement, employer familiarity, employer reputation and organizational attractiveness) and formative (i.e., achievement and progression-oriented affordances, social-oriented affordances and immersion-oriented affordances) constructs (Jarvis *et al*., 2003).

First, the reflective measurement model was analysed. Engagement was conceived as a second-order construct with two dimensions, namely cognitive engagement and affective engagement. Prior research has supported a second-order hierarchical model of engagement (e.g., Berger *et al*., 2018). When the goal of a study is to predict broadly defined behaviours, higher-order constructs might prove valuable (Hair *et al*., 2022). This approach also allows for a more parsimonious explanation of the antecedents and consequences of engagement without diluting the focus across the separate dimensions and reduces the number of relationships in the structural model, making the PLS-SEM path model more parsimonious and easier to understand (Hair *et al*., 2022).

Engagement was conceptualised as a Type I (reflective-reflective) higher-order construct, allowing two approaches for its specification: the repeated indicators approach and the disjoint two-stage approach (Sarstedt *et al*., 2019). Among these, Becker *et al*. (2023) recommended using the disjoint two-stage approach.

In Stage 1 of the disjoint two-stage approach, the lower-order constructs of cognitive engagement and affective engagement were connected with all the higher-order construct's antecedents (i.e., achievement and progression-oriented affordances, social-oriented affordances and immersion-oriented affordances) and consequences (i.e., employer familiarity and employer reputation) in the model. The first step of the confirmatory composite analysis involved assessing the indicator loadings and their significance (Hair *et al*., 2020). A one-tailed

test at the 5% significance level was performed using a bootstrapping procedure with 10,000 samples. All indicators in the lower-order model exhibited a loading above the recommended threshold of 0.708 and all *t*-statistics were significant (Hair *et al*., 2020).

Indicator reliability was assessed by squaring the individual indicator loadings, which measure the amount of shared variance between each indicator and its construct (Hair *et al*., 2020). Each indicator shared more than 50% of its variance with its associated construct, which confirms that all indicators exhibited acceptable item reliability.

The constructs' internal consistency reliability was then assessed using composite reliability (CR). All CR values exceeded the standard value of 0.70, indicating adequate reliability (Hair *et al*., 2020). Convergent validity was evaluated through the Average Variance Extracted (AVE). All AVE values were above the recommended threshold of 0.50, indicating adequate convergent validity (Hair *et al*., 2020).

Discriminant validity was assessed using the Heterotrait and Monotrait (HTMT) ratio of correlations (Hair *et al*., 2020). All HTMT ratios for each pair of constructs were below the recommend threshold of 0.90, except for cognitive engagement and affective engagement, which had an HTMT ratio of 0.924. To address this issue, item *CE1* was removed from the cognitive engagement construct due to its high cross-loading with affective engagement (0.840).

The measurement model for the lower-order constructs was re-estimated without item *CE1*. As shown in Supplementary Appendix 1, all indicator loadings exceeded 0.708 and were statistically significant. Item reliability was acceptable, as all squared loadings were above 0.50. Construct reliability was confirmed, with all CR values surpassing the recommended threshold of 0.70, while convergent validity was supported, as all AVEs were greater than 0.50 (Hair *et al*., 2020). Likewise, all HTMT values were below the 0.90 cut-off, and the confidence intervals

(bias-corrected) did not include the value 1, thus supporting discriminant validity (Hair *et al*., 2020) (see Supplementary Appendix 2).

In Stage 2 of the disjoint two-stage approach, the latent variable scores of cognitive engagement and affective engagement obtained from Stage 1 were used as indicators of the higher-order construct (i.e., engagement) (Sarstedt *et al*., 2019). The evaluation process in Stage 2 mirrored that of Stage 1. All indicator loadings were above 0.708 and statistically significant (cognitive engagement outer loading = 0.851, p-value < 0.001; affective engagement outer loading = 0.901, p-value < 0.001) and showed acceptable item reliability since the squared loadings were greater than 0.50. As shown in Table III, all constructs exhibited acceptable reliability, with CR values for each construct exceeding the recommended threshold of 0.70, and convergent validity, as all AVEs were greater than the 0.50 threshold. Discriminant validity for the higher-order model was also supported since the HTMT values were below the recommended value of 0.90 and the confidence intervals (bias-corrected) did not include the value 1 (Hair *et al*., 2020).

< Table III about here >

The formative measurement model was analysed using confirmatory composite analysis. Indicator multicollinearity was assessed by analysing the variance inflation factor (VIF). Multicollinearity is unlikely to be a problem if the VIF is 3.0 or lower (Hair *et al*., 2020). As Table IV shows, the VIF values ranged from 1.348 to 1.949, indicating that the model does not suffer from multicollinearity problems. Then, the size and significance of the indicator weight were examined to determine the extent to which the formative indicators contribute to the construct score. The contribution of the indicator is interpreted based on the size of the outer weights, with larger weights indicating a higher contribution. The outer weights should ideally be statistically significant. However, Hair *et al*. (2020) argued that the absolute contribution of formative indicators, which is derived from the formative indicator's outer loading, can justify retaining formative indicators when their outer weights are small and non-significant. In

particular, a formative indicator loading can be considered absolutely important in forming the formative construct when it is ≥ 0.50 and statistically significant (Hair *et al*., 2020).

< Table IV about here >

5.2. Structural model assessment

The structural model was assessed following the steps of the confirmatory composite analysis (Hair *et al*., 2020). First, the structural model constructs were evaluated for multicollinearity. As presented in Table V, VIF values for each set of predictor constructs were examined. Collinearity was not an issue since all VIF values were below the recommended threshold of 3.0, with the highest VIF value being 2.602 (Hair *et al*., 2020).

< Table V about here >

Second, the size and significance of the structural path coefficients were evaluated using a one-tailed, bias-corrected and accelerated bootstrapping procedure with 10,000 sub-samples (see Table V). The results indicated that most relationships between the independent and dependent variables were statistically significant at $p < 0.05$.

Achievement and progression-oriented affordances ($\beta = 0.459$; $p < 0.001$) and social-oriented affordances ($\beta = 0.303$; $p = 0.004$) were key in promoting engagement, which supports H1 and H2. No significant effect for the impact of immersion-oriented affordances on engagement was found ($\beta = -0.090$; $p = 0.200$), which means that H3 is rejected.

Regarding the effect of engagement on employer branding outcomes, the findings showed that engagement positively impacted employer familiarity ($\beta = 0.299$; $p < 0.001$) and employer reputation ($\beta = 0.251$; $p = 0.001$), supporting H4 and H5, respectively, while employer familiarity positively predicted employer reputation ($\beta = 0.615$; $p < 0.001$), supporting H6.

The findings also revealed that employer reputation promoted organizational attractiveness (β = 0.526; $p < 0.001$), which supports H8, whereas employer familiarity had no significant effect on organizational attractiveness (β = -0.043; p = 0.322), resulting in the rejection of H7.

Gender and age were included as control variables in the model. Neither gender (β = -0.196; p = 0.069) nor age (β = 0.083; p = 0.064) showed a significant influence on organizational attractiveness.

Third, the structural model in-sample prediction power was assessed through R^2 (Hair *et al*., 2020). The results revealed that the model explains 41.1% of the variance of engagement, 9.0% of employer familiarity, 53.4% of employer reputation, and 26.5% of organizational attractiveness. The adjusted R^2 values indicated that there was no change in the values when an adjustment was made for the number of predictor variables. As an additional measure of in-sample predictive ability of the structural model, the effect sizes (f^2) were assessed (see Table V). These values represent the change in R^2 when an exogenous construct is omitted from the model and indicate whether the omitted construct is a meaningful predictor of the dependent construct (Hair *et al*., 2019). As expected, immersion affordances were not meaningfully associated to engagement and employer familiarity was not meaningfully associated to organizational attractiveness due to the non-significant relationships observed previously. The f^2 for the other constructs in the model ranged from 0.065 to 0.741, thereby indicating that these constructs had small-to-large effect sizes on their endogenous variables (Hair *et al*., 2020).

Fourth, the out-of-sample predictive power of the structural model, which refers to the model's ability to predict new or future observations, was assessed using the PLSpredict algorithm (Hair *et al*., 2020). The results (see Supplementary Appendix 3) revealed that the Q^2predict values of all constructs' indicators exceeded the threshold of 0.0, and the majority of indicators exhibited lower RMSE prediction errors compared to the naïve LM benchmark (with the exception of *ER3* and *ER4*), indicating that the model has medium out-of-sample predictive power (Hair *et*

al., 2020). Next, the cross-validated predictive ability test (CVPAT) for enhanced assessment of out-of-sample predictions was performed for the overall model (Sharma *et al*., 2023). The findings revealed that the proposed model shows a significantly reduced average loss compared to the baseline model (overall average loss difference PLS-SEM vs. IA = -30275.702; *p*-value = 0.04), thereby indicating that the model exhibits meaningful predictive validity.

6. Discussion

6.1. Discussion and theoretical contributions

In the current job market, where a solid employer brand strategy is essential to stand out among the competition (Randstad, 2024), gamification has emerged as a promising tool for employer branding (Küpper *et al.,* 2021).

While prior research has explored gamification in various domains, its effects can vary significantly depending on the context (Koivisto and Hamari, 2019). Contextual differences can alter the way individuals interact with and respond to gamified elements. This study proposes and tests a research model to assess the effectiveness of gamification for creating strong employer brands in a recruitment setting.

Findings indicate that engagement is particularly fostered when individuals interact with achievement and progression affordances (e.g., challenges, feedback, points) during a gamified recruitment process. These game elements contribute to individuals' sense of competence, autonomy and relatedness (Xi and Hamari, 2019), aligning with the principles of SDT (Deci and Ryan, 2000). At the same time, the challenge-feedback loop may facilitate a flow experience (Csikszentmihalyi, 1975) by keeping participants immersed and appropriately challenged. This result expands on existing research by showing that achievement and progression-related affordances enhance various forms of engagement, beyond brand

engagement (e.g., Berger *et al*., 2018; Xi and Hamari, 2020) and user engagement (e.g., Zhang *et al*., 2023).

This study also demonstrates that gamified recruitment processes that allow individuals to interact socially with others through competition and cooperation are perceived as more engaging. This result can be explained through SDT, as social affordances especially fulfill the need for relatedness (e.g., Bitrián *et al.,* 2021; Xi and Hamari, 2019), which in turn enhances intrinsic motivation and engagement. This finding highlights the importance of social dynamics in shaping participants' engagement, aligning with previous works (e.g., Xi and Hamari, 2020; Zhang *et al*., 2023), but offering a new perspective within the recruitment context.

The findings reveal that interacting with immersion affordances (e.g., narrative, real objects) during a gamified recruitment process has no significant effect on engagement. This result is not entirely unexpected. Immersion affordances are more unpredictable than achievement and progression affordances or social affordances, and play a subtler role in comparison. For instance, some studies have linked them to the social aspect of brand engagement but found no significant effect on either cognitive or emotional engagement (Xi and Hamari, 2020). Other findings indicate that these affordances do not promote participants' intrinsic motivation (Bitrián *et al*., 2023). Likewise, findings on the effect of immersion affordances on intrinsic need satisfaction have also been contradictory, with researchers finding positive effects, no effect or even detrimental effects depending on the gamified setting (e.g., Bitrián *et al*., 2021, 2023; Xi and Hamari, 2019).

Immersion affordances, such as narrative elements, can be relevant in contexts such as gamified brand storytelling (Vega and Camarero, 2024), but their role in gamified recruitment appears to be limited, since they may be perceived as irrelevant or even distracting. Research in learning and training environments supports this idea, showing that narratives can consume cognitive resources that would otherwise be allocated to processing essential content, ultimately having

little impact on learning outcomes (Armstrong and Landers, 2018). In recruitment, where candidates can be more focused on demonstrating their skills or getting a job, immersive elements may be less significant, as they do not directly contribute to the assessment process.

The results also reveal that individuals who experience higher levels of engagement during the gamified recruitment process tend to have more favourable perceptions of employer familiarity and employer reputation. This finding aligns with insights from the brand equity literature (e.g., Algharabat *et al.,* 2020; Hepola *et al.,* 2017; Rather *et al.,* 2024), but adds a new perspective within the context of gamified recruitment. Likewise, it can be concluded that greater employer familiarity results in enhanced employer reputation, as suggested by previous conceptual studies (e.g., Cable and Turban, 2001; Theurer *et al.,* 2018).

The results demonstrate that, while employer reputation predicts organizational attractiveness, employer familiarity has no significant effect on this aspect. This lack of impact may be due to the fact that employer familiarity is a necessary, but not sufficient, condition for an employer brand to have value. Research in brand equity literature supports the existence of a hierarchy among brand equity dimensions (e.g., Buil *et al.,* 2013; Keller and Lehmann, 2006), where consumers' awareness of a brand leads to attitudes (perceived quality and brand associations), which in turn influence brand loyalty. Similarly, employer familiarity contributes to a company's reputation, but does not directly impact organizational attractiveness. Candidates may recognize a company, but this familiarity may not enhance the organization's attractiveness. Instead, the results confirm that employer familiarity serves as a driver of employer reputation, which, in turn, influences organizational attractiveness.

This study offers several theoretical contributions to research. It enhances the understanding of the impact of gamification on employer branding. While the literature on gamification has grown significantly in recent years across various domains, only limited studies have analysed how its use can help improve employer branding (Bhawna *et al.,* 2025; Kashive *et al.,* 2022).

The present study advances previous research by examining the relationships between different motivational affordances, individuals' engagement and relevant employer brand constructs, such as employer familiarity, employer reputation and organizational attractiveness.

This study also broadens the scope by assessing how gamification shapes employer brand perceptions within a real gamified recruitment scenario. In doing so, it extends existing research, which has primarily focused on validating gamified assessment methods in employee selection (e.g., Georgiou *et al.,* 2019; Hommel *et al.,* 2022; Nikolaou *et al.,* 2018) and investigating participant reactions in terms of various outcomes, such as reduced anxiety (Landers *et al.,* 2022), increased perceptions of suitability, fairness and justice (Landers *et al.,* 2022; Landers and Collmus, 2022; Ramos-Villagrasa and Fernández-del-Río, 2023), greater enjoyment and motivation (Buil *et al.,* 2020; Harman and Brown, 2022; Landers *et al.,* 2022), and improved user experience (Leutner *et al.,* 2021, 2023) and satisfaction (Buil *et al.,* 2020; Georgiou and Nikolaou, 2020; Leutner *et al.,* 2023).

Previous studies have investigated the potential of gamified recruitment from the perspective of current employees with prior job market experience (e.g., Georgiou and Nikolaou, 2020; Gkorezis *et al.,* 2021). By contrast, this study contributes to existing knowledge by analysing a profile that is especially interesting for employers –i.e., young talent. The new generations to join the labour market present new challenges for organizations due to their distinct characteristics and behaviours (Deloitte, 2024; Rider, 2024). Young talent, particularly those from Generation Z, has greater confidence in using digital technologies, more familiarity with digital games, and a stronger interest in interactive, game-like experiences (Koivisto and Malik, 2021), making them more receptive to gamified recruitment strategies. This study provides insights into how gamification can be used to attract and engage younger candidates.

6.2. Managerial contributions

The results of this study provide relevant practical contributions for employers, as well as for developers and designers of gamified recruitment tools. First, as this study has revealed, gamified recruitment is an interesting strategy for boosting the employer brand among applicants and prospective employees. It is important to acknowledge that the effectiveness of gamified recruitment may depend on various factors, such as candidates' professional experience, the industry or sector, and their familiarity with gamification, among others. Organizations should consider these factors when designing and implementing gamified recruitment strategies to ensure they align with their specific goals.

Today, employers are struggling to attract new and fresh talent due to a global talent shortage (Kwon and Jang, 2022) and younger generations face challenges in traditional job interviews (*The Guardian*, 2024). Human resource managers must adapt recruitment and employer branding strategies to the digital environment as the workforce increasingly consists of digital natives (Küpper *et al.,* 2021). In this context, organizations should consider implementing gamification techniques, such as escape games, as part of their recruitment strategy. This is especially applicable to targeting young talent, as these new trends enable applicants to engage with organizations in a more playful and relaxed way (Ramos-Villagrasa *et al*., 2022).

Engagement is one of the mechanisms through which an employer brand can be established, fostering a sense of familiarity and reputation among prospective employees that enhance the overall attractiveness of the organization. While employer familiarity can help companies get noticed, it is a strong reputation that ultimately enhances their attractiveness to individuals. Organizations should go beyond increasing visibility and focus on building a strong reputation.

As shown in this research, engagement can be cultivated through gamification. In this regard, special attention must be given to the selection and design of the gamified recruitment tool used.

Based on the results, organizations should avoid investing in complex narratives and prioritize other gamification elements that provide clear progression, motivation and interaction. In particular, to foster engagement, it is crucial that the gamified recruitment tool incorporates achievement and progression-oriented affordances that provide participants with clear tasks and structured challenges. These affordances should include immediate and meaningful feedback mechanisms, such as points, badges, and progression bars, to help individuals track their progress and stay motivated throughout the process.

The interaction with social affordances in the gamified recruitment process is highly encouraged. Either through cooperation with team members or competition among teams or participants (or a combination of both), providing opportunities for social interaction can significantly enhance engagement. Participants who feel connected to others –whether they are working together to solve challenges or competing in a friendly, game-based format– find the recruitment process enjoyable and memorable. Even though the result of the recruitment process might be an individual job position in the organization, the process could be designed in a way that allows social interaction.

By combining achievement and progression-oriented affordances, as well as social affordances, organizations can create a more engaging recruitment experience that enhances the employer's reputation as an innovative workplace and strengthens its attractiveness to potential candidates.

6.3. Limitations and directions for future research

This study is not without limitations, some of which suggest avenues for additional research. First, this research analyses a specific gamified recruitment tool based on an escape game. No comparisons were made with other types of gamification. Future studies should examine different gamified activities to better understand how various gamification formats impact recruitment outcomes.

Second, this study does not consider the competitive environment in which other organizations may also be using gamification or alternative recruitment strategies. Future research should explore how competition between organizations using gamification or other methods affects recruitment outcomes.

Third, a limitation of the current study is the lack of data on respondents' prior experience with the organizations, as well as with gaming and gamification in recruitment processes. Future research should include these aspects to gain a deeper understanding of their potential impact on the results. Another limitation is the potential self-selection bias among participants who responded to the survey. This self-selection may have led to a final sample that differs from the initial group of participants and from the target audience the organizations sought to reach.

Fourth, the cross-sectional design of the study does not allow for causal inferences and there is a lack of baseline data to asses before-and-after changes in the dependent variables. A longitudinal study would be valuable in this context, as it would provide a more comprehensive understanding of the long-term effects of gamification.

Fifth, only a small portion of the variance of employer familiarity was captured. Other variables, such as perceived playfulness or enjoyment (Küpper *et al.,* 2021), may influence this construct and explain a larger portion of the variance. Similarly, future research should explore recruitment-related outcomes, such as the likelihood of formally applying for a job or recommending the organization as an employer. These factors could provide further insights into the broader implications of gamification in the recruitment process.

Sixth, since gamification affordances were conceptualised formatively based on previous literature (e.g., Bitrián *et al*., 2021, 2023; Buil *et al*., 2024; Xi and Hamari, 2019), but no additional reflective measure of the constructs was introduced in the online survey as part of the data collection process, the redundancy test for convergent validity within the formative

measurement model assessment could not be performed. Future research should include a reflective measure of the construct as well.

Finally, this study does not address the potential limitations or unintended consequences of using gamification in recruitment. While gamification can increase engagement, this engagement may not necessarily be with the employer brand itself, but rather with the game. In other words, individuals may become immersed in the gamified experience without forming a meaningful connection with the organization behind it. This "vampire effect" (Eppmann *et al.,* 2018) occurs when the game elements draw attention away from the intended branding message. As a result, engagement may not always translate into meaningful actions, such as follow-up applications or actual recommendations. The effectiveness of gamification is also likely to vary depending on contextual and individual factors. Elements such as job type, industry, organizational culture, and candidate characteristics (as noted earlier) may influence how gamified tools are perceived and whether they lead to positive employer branding outcomes. Future research should investigate these moderating conditions to better understand when gamification strengthens employer brand perceptions and when it may fall short or even backfire.

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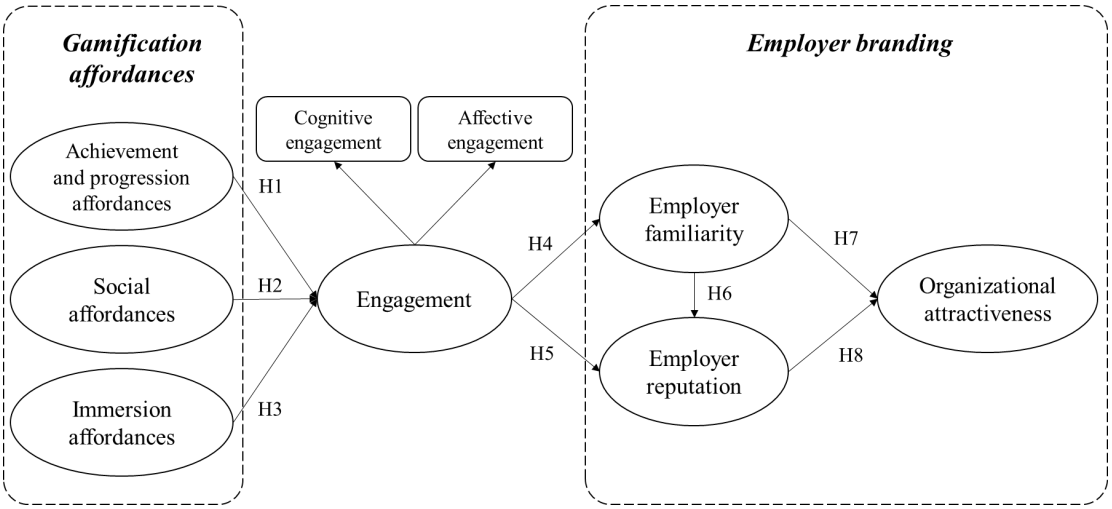
Figure 1. Proposed model



Source: Authors' own work

Table I. Relevant empirical studies investigating the use of gamification in recruitment and assessment processes

Reference	Gamification	Independent variables	Mediator / moderator	Dependent variables	Research design	Sample	Key findings
Buil *et al.* (2020)	Serious games	Competence, autonomy	Autonomous motivation, perceived ease of use, perceived usefulness, attitude	Recommendation intention, satisfaction, organizational attractiveness	Survey	239 participants	Gamified recruitment fosters positive attitudes among applicants which, in turn, enhance their recommendation intention, their satisfaction with the tool and perceived organizational attractiveness
Ellison *et al.* (2020)	Game-based assessment	Job-relatedness, opportunity to perform, consistency of administration, provision of selection information	Fairness perceptions	Willingness to refer, overall enjoyment of assessment	Survey	374 participants	Fairness mediates the relationship between procedural justice rules and willingness to recommend the company to others. Males have significantly higher procedural justice perceptions of GBAs than females
Georgiou and Nikolaou (2020)	Game-based assessment	Gamified Situational Judgement Test-SJT vs. traditional version (i.e., text-based SJT)	Openness to experience	Process satisfaction, predictive validity, perceived test fairness, organizational attractiveness	Experimental design	Study 1: 308 employees Study 2: 131 students and alumni	Participants report higher process satisfaction, perceived fairness and organizational attractiveness when the gamified assessment method is used compared to its traditional version. The role of openness to experience is not supported.
Landers *et al.* (2020)	Game-based assessment	Gamified Situational Judgement Test-SJT (immersive game elements and control game elements)		Applicant reactions (lack of concentration, belief in test and test ease), procedural justice, organizational attitudes (organizational attractiveness and perceptions of organizational technological sophistication), conscientiousness, cognitive ability	Experimental design	240	Immersive game elements improve perceptions of organizational technological sophistication, but no other reactions outcomes

Reference	Gamification	Independent variables	Mediator / moderator	Dependent variables	Research design	Sample	Key findings
Georgiou (2021)	Game-based assessment	Gamified Situational Judgement Test-SJT vs. traditional version (i.e., text-based SJT)	Job relatedness, faking perceptions, opportunity to perform perceptions, procedural justice	Organizational attractiveness	Experiment design	Study 1: 103 employees Study 2: 186 employees	Individuals' perceptions of job relatedness are higher when a situational judgment tests (SJT) is used rather than a gamified version, leading to more positive perceptions of procedural fairness and organizational attractiveness. Explanations on the assessment's faking difficulty generates more positive reactions towards gamified SJTs than text-based SJTs
Gkorezis *et al.* (2021)	Game-based assessment	Gamified vs. traditional Situational Judgement Test (SJT)	Previous video game experience, organizational attractiveness	Recommendation intentions	Experimental design	161 employees	The positive effect of the gamified assessment method (vs. traditional method) on organizational attractiveness and recommendation intentions is significant only for those with a high level of video gaming experience
Melchers and Basch (2021)	Simulation game	Gender, age		Performance	Survey	1071 applicants	Males and younger applicants perform better in the computer-based simulation game than females and older applicants
Auer *et al.* (2022)	Game-based assessment	Game-based assessment scores (GBA)		Student grade point average (GPA), traditional cognitive ability tests, conscientiousness	Survey	621 undergraduate students	The study provides promising evidence for the use of trace data modeling to predict cognitive ability, but not conscientiousness
Georgiou and Lievens (2022)	Game-based assessment	Enjoyment, flow	Innovation, competence	Organizational attractiveness	Study 1: longitudinal design Study 2: Experimental design	Study 1: 100 employees Study 2: 103 employees (52 control group and 51 gamified assessment).	Flow and enjoyment of a gamified assessment send signals to applicants about the organization's "personality" (innovativeness and competence), which, in turn, influence organizational attractiveness
Hommel *et al.* (2022)	Game-based assessment	The Gamified Set-Shifting Task vs. Wisconsin Card Sorting Test vs		Adaptability, academic performance, acceptance	Experimental design	180	The gamified version is better accepted than the traditional test
Kashive *et al.* (2022)	Game-based assessment	Achievement, immersion and social-related game elements	Brand engagement, employer brand equity	Employer branding outcomes (employer attractiveness, job search, intention to apply)	Qualitative (content analysis)	150 online reviews	The reviews show positive but also negative sentiments

Reference	Gamification	Independent variables	Mediator / moderator	Dependent variables	Research design	Sample	Key findings
Landers and Collmus (2022)	Game-based assessment	Gamified personality assessment vs. original measure		Attitude towards test (predictive validity, fairness perceptions, face validity), academic performance	Experimental design	170 students	Convergence between the assessment measures is moderate. The original measure is better predicting performance
Wu *et al.* (2022)	Game-based assessment	Game-based assessment performance		Personality traits, goal orientation, cognitive ability, video game experience	Experimental design	575 students	Game-based assessments can potentially measure unintended constructs
Leutner *et al.* (2023)	Game-based assessment and machine learning based assessment	Game based assessments of cognitive ability		Effectiveness of cognitive ability assessments		11,574 completed game based cognitive ability assessments (4 studies)	Game based assessments of cognitive ability accurately measure cognitive ability, showing good convergent validity with traditional cognitive ability tests
Ramos-Villagrasa *et al.* (2023)	Serious game	Sociodemographic variables, Big Five and game-related assessment (GRA) scores		Performance (task performance, contextual performance, and counterproductive work behaviours, adaptive performance), perception of comfort and perception of suitability	Experimental design	182 students and alumni	The game predicts adaptive performance better than the Big Five. Candidates react more positively to the GRA in terms of comfort and fit
Ohlms *et al.* (2024)	Game-based assessment	Non-gamified vs. gamified cognitive ability test		Clarity of work, organizational image, fairness perceptions (procedural fairness, job relatedness, opportunity to perform), organizational attractiveness, enjoyment	Experimental design	212 participants	The gamified assessment is rated higher on opportunity to perform (vs. traditional version). No differences are found between the two tests for fairness, job relatedness, and enjoyment
Ramos-Villagrasa *et al.* (2024)	Game-based assessment	Big Five personality–gamified evaluation (VASSIP), Big Five personality–traditional assessment		Job performance, perceptions of fairness, comfort, predictive validity, and organizational attractiveness	Survey	98 university students	Gamified assessment behave similarly to the original personality measure in terms of reliability and participants' scores

Reference	Gamification	Independent variables	Mediator / moderator	Dependent variables	Research design	Sample	Key findings
Bhawna *et al.* (2025)	Gamification practices	Gamification practices	Intrinsic motivation, job autonomy, prior perception of employer brand	Employer branding	Survey	1842 employees	Intrinsic motivation and job autonomy mediate the effect of gamification practices on employer branding. Prior perceptions of the employer brand moderate the relationship between gamification practices and job autonomy
Nikolaou and Katsadoraki (2025)	Game-based assessment	HEXACO-RUSH assessment vs. traditional personality assessment	Video gaming experience	Organizational attractiveness, recommendation intentions, procedural justice, affect/enjoyment, easiness to fake, face validity	Experimental design	Study 1: 240 participants (it explores the development and construct validity) Study 2: 160 participants	There is a moderate alignment between the new game and the HEXACO model. The gamified version exhibited positive participants' reactions, compared to HEXACO-60, moderated by previous video-gaming experience.
Ohlms *et al.* (2025)	Game-based assessment	Realistic storified, a fantasy storified, and a non-storified test		Perceived job-relatedness, procedural fairness, organizational attractiveness, behavioural intentions, clarity of work activity, modernity, enjoyment	Experimental design	195 participants	The level of fantasy of a storyline in a storified assessment plays a key role for applicant reaction variables

Source: Authors' own work

Table II. Variables and items

Variables and sources	Items	Means	Standard deviation
Achievement and progression affordances (Xi and Hamari, 2019)	In The Talent Games, it was important to me to interact with…		
	Challenges	6.108	1.005
	Tasks	5.747	1.277
	Feedback	5.844	1.254
	Points	5.828	1.271
	Timing	5.194	1.574
Social affordances (Xi and Hamari, 2019)	In The Talent Games, it was important to me to interact with…		
	Competition	5.817	1.391
	Cooperation	6.360	1.075
Immersion affordances (Xi and Hamari, 2019)	In The Talent Games, it was important to me to interact with…		
	Narrative	5.683	1.320
	Objects	5.742	1.440
Cognitive engagement (Rotgans and Schmidt, 2011)	*CE1.* I put in a lot of effort	6.484	0.875
	CE2. I was so involved that I forgot everything around me	5.806	1.268
	CE3. I wish I could still continue with The Talent Games	5.935	1.203
Affective engagement (Skinner *et al.,* 2009)	*AE1.* In The Talent Games, I felt good	6.430	0.872
	AE2. In The Talent Games, I felt interested	6.538	0.837
	AE3. The Talent Games were fun	6.376	0.921
	AE4. In The Talent Games, I felt included	6.559	0.803
	AE5. In The Talent Games, I got involved	6.516	0.825
Employer familiarity (Collins, 2007)	Based on your participation in The Talent Games, please indicate your level of agreement with the following statements:		
	EF1. I am aware of this company	5.952	1.246
	EF2. I can recognise this company among other employers	5.328	1.727
Employer reputation (Ehrhart *et al.,* 2012)	Based on your participation in The Talent Games, please indicate your level of agreement with the following statements:		
	ER1. The company has a reputation as being an excellent employer	5.640	1.184
	ER2. The company has a positive organizational image	6.016	1.050
	ER3. The company is recognised for its good reputation	5.640	1.157
	ER4. The company has a reputation for being a good company	5.785	1.101
Organizational attractiveness (Highhouse *et al.,* 2003)	Based on your participation in The Talent Games, please indicate your level of agreement with the following statements:		
	OA1. For me, this company would be a good place to work	5.661	1.391
	OA2. This company is attractive for me as a place for employment	5.360	1.486
	OA3. I am interested in learning more about this company	5.446	1.463
	OA4. A job at this company is very appealing to me	5.349	1.563

Source: Authors' own work

Table III. Reflective measurement model results (Stage 2 of the disjoint two-stage approach)

Constructs	CR (ρ_a)	CR (ρ_c)	AVE	HTMT			
				1	2	3	4
Engagement (1)	0.718	0.869	0.768	-	-	-	-
Employer familiarity (2)	0.704	0.851	0.741	0.403 [0.222, 0.585]	-	-	-
Employer reputation (3)	0.919	0.942	0.803	0.538 [0.371, 0.682]	0.879 [0.752, 0.995]	-	-
Organizational attractiveness (4)	0.960	0.967	0.878	0.307 [0.151, 0.457]	0.379 [0.223, 0.527]	0.524 [0.408, 0.622]	-

Note: ρ_a: Jöreskog's composite reliability; ρ_c: Dijkstra – Henseler's composite reliability; AVE: average variance extracted; HTMT: heterotrait-monotrait ratio of correlations [confidence intervals bias corrected]

Source: Authors' own work

Table IV. Formative measurement model results

Variables	Items	VIF	Weights	*t*-statistics	CI	Loadings	*t*-statistics	CI
Achievement and progression affordances	Challenges	1.844	0.233	$1.504^{n.s.}$	[-0.016, 0.489]	0.770	8.245^{***}	[0.612, 0.894]
	Tasks	1.861	0.203	$1.298^{n.s.}$	[-0.056, 0.457]	0.766	8.673^{***}	[0.617, 0.888]
	Feedback	1.949	0.514	3.353^{***}	[0.273, 0.779]	0.899	17.432^{***}	[0.825, 0.970]
	Points	1.509	0.176	$1.363^{n.s.}$	[-0.036, 0.389]	0.642	6.123^{***}	[0.465, 0.788]
	Timing	1.372	0.151	$1.240^{n.s.}$	[-0.038, 0.361]	0.593	6.898^{***}	[0.453, 0.728]
Social affordances	Competition	1.348	0.241	1.806^{*}	[0.027, 0.465]	0.676	7.243^{***}	[0.510, 0.817]
	Cooperation	1.348	0.856	9.217^{***}	[0.677, 0.982]	0.978	33.160^{***}	[0.913, 0.999]
Immersion affordances	Narrative	1.584	0.574	2.739^{**}	[0.189, 0.872]	0.903	10.410^{***}	[0.712, 0.987]
	Objects	1.584	0.542	2.603^{**}	[0.192, 0.874]	0.890	10.237^{***}	[0.710, 0.987]

Note: VIF: variance inflation factor; CI: 95% confidence intervals (bias corrected); $^{*}p$-value < 0.05; $^{**}p$-value < 0.01; $^{***}p$-value < 0.001; n.s.: statistically non-significant

Source: Authors' own work

Table V. Structural model results

Hypotheses	VIF	β	*t*-statistics	CI	f^2	Supported
H1. Achievement and progression affordances → Engagement	2.602	0.459	5.148^{***}	[0.308, 0.602]	0.137	Yes
H2. Social affordances → Engagement	2.404	0.303	2.676^{**}	[0.136, 0.499]	0.065	Yes
H3. Immersion affordances → Engagement	2.536	-0.090	$0.843^{n.s.}$	[-0.294, 0.046]	0.005	No
H4. Engagement → Employer familiarity	1.000	0.299	3.687^{***}	[0.160, 0.428]	0.098	Yes
H5. Engagement → Employer reputation	1.098	0.251	3.025^{**}	[0.123, 0.399]	0.123	Yes
H6. Employer familiarity → Employer reputation	1.098	0.615	9.024^{***}	[0.494, 0.717]	0.741	Yes
H7. Employer familiarity → Organizational attractiveness	1.925	-0.043	$0.463^{n.s.}$	[-0.195, 0.107]	0.001	No
H8. Employer reputation → Organizational attractiveness	1.924	0.526	$6.986^{n.s.}$	[0.394, 0.641]	0.195	Yes

Note: VIF: variance inflation factor; β = path coefficient; CI: 95% confidence intervals (bias corrected); f^2 = effect size; $^{*}p$-value < 0.05; $^{**}p$-value < 0.01; $^{***}p$-value < 0.001; n.s.: statistically non-significant

Source: Authors' own work

Web Appendix 1. Loadings, reliability and validity results (Stage 1 of the disjoint two-stage approach)

Constructs	Items	Outer loadings	*t*-statistics for outer loadings	Squared outer loadings	CR (ρ_a)	CR (ρ_c)	AVE
Cognitive engagement	CE2	0.894	42.708***	0.799	0.760	0.893	0.806
	CE3	0.902	35.577***	0.813			
Affective engagement	AE1	0.810	14.956***	0.656	0.944	0.956	0.815
	AE2	0.944	78.638***	0.891			
	AE3	0.888	43.233***	0.788			
	AE4	0.934	50.181***	0.872			
	AE5	0.930	50.897***	0.864			
Employer familiarity	EF1	0.908	56.626***	0.824	0.708	0.850	0.740
	EF2	0.809	18.367***	0.654			
Employer reputation	ER1	0.886	29.306***	0.784	0.919	0.942	0.903
	ER2	0.872	32.520***	0.760			
	ER3	0.909	53.447***	0.826			
	ER4	0.917	58.361***	0.840			
Organizational attractiveness	OA1	0.920	61.501***	0.846	0.960	0.967	0.878
	OA2	0.951	103.451***	0.904			
	OA3	0.943	88.274***	0.889			
	OA4	0.934	74.055***	0.872			

Note: ***p-value < 0.001; ρ_a: Jöreskog's composite reliability; ρ_c: Dijkstra – Henseler's composite reliability; AVE: average variance extracted

Source: Authors' own work

Web Appendix 2. Heterotrait-monotrait ratios (HTMT) - Confidence intervals bias corrected (Stage 1 of the disjoint two-stage approach)

	Cognitive engagement	Affective engagement	Employer familiarity	Employer reputation
Affective engagement	0.803 [0.726, 0.867]			
Employer familiarity	0.305 [0.167, 0.462]	0.397 [0.244, 0.551]		
Employer reputation	0.464 [0.314, 0.597]	0.471 [0.315, 0.607]	0.879 [0.752, 0.995]	
Organizational attractiveness	0.252 [0.100, 0.405]	0.249 [0.123, 0.377]	0.379 [0.223, 0.527]	0.524 [0.408, 0.622]

Source: Authors' own work

Web Appendix 3. PLSpredict results

Indicator	Q^2predict	PLS-SEM RMSE	LM RMSE
CE	0.209	838.051	856.824
AE	0.286	666.536	667.968
EF1	0.070	1.209	1.240
EF2	0.040	1.704	1.785
ER1	0.131	1.112	1.126
ER2	0.107	1.000	1.035
ER3	0.150	1.073	1.064
ER4	0.179	1.003	0.998
OA1	0.020	1.384	1.415
OA2	0.041	1.464	1.507
OA3	0.039	1.442	1.485
OA4	0.037	1.542	1.585

Source: Authors' own work