



Journal of Frontiers in Multidisciplinary Research

Gamification Strategies for Career Development: Boosting Professional Growth and Engagement with Interactive Progress Tracking

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Article Info

E-ISSN: 3050-9726

P-ISSN: 3050-9718

Volume: 01

Issue: 01

January-June 2020

Received: 27-01-2020

Accepted: 24-02-2020

Published: 20-03-2020

Page No: 24-31

Abstract

The research investigates modern gamification practices in career development while it demonstrates their contribution to worker development and participation. Organizations enhance motivational learning environments to promote continuous skill advancement when they implement interactive tracking systems. The strategy enhances worker enthusiasm and makes individual ambitions coincide with business objectives leading to active and efficient teams. The research evaluates basic gamification concepts and their deployment methods alongside documented results from professional applications of these approaches.

DOI: <https://doi.org/10.54660/IJFMR.2020.1.1.24-31>

Keywords: Gamification, Strategies, Career Development, Professional Growth, Engagement

1. Introduction

The modern rapidly developing professional world has significantly intensified the importance of career development. Staff members want more from their positions than security because they need ongoing education together with well-defined promotion routes and substantive role involvement. Businesses confront strong demands to develop their employees' skills and improve operational efficiency in addition to sustaining their best staff. The essential organizational function of career development receives limited support from traditional approaches which do not sustain employee engagement or motivation effectively (Al Mehrzi & Singh, 2016; Gupta & Sharma, 2016; Knight, Patterson, & Dawson, 2017) ^[1, 8, 16].

Several organizations use gamification principles that incorporate game-type elements like scores, accolades, rank systems and advancement displays to boost employee participation, motivational force and educational results within their non-game applications. The implementation of gamification principles in educational contexts enhances learner involvement while improving knowledge preservation (Dicheva *et al.*, 2015; Choi *et al.*, 2015) ^[4, 3] and professionals use these same principles to develop their careers at workplaces (Johnson *et al.*, 2016; Negruşa *et al.*, 2015). The gamification system uses both innate and external motivators to transform how people practice development activities. Employees demonstrate better ownership of professional development and organizational objective connectivity when career learning pathways include interactive rewards (Evangeline & Ragavan, 2016; Graffigna, 2017) ^[5, 7]. According to Pansari and Kumar (2017) ^[25] and Harmeling *et al.* (2017) ^[10], alongside Pansari and Kumar (2017) ^[25], gamified systems with clear structures enhance both job satisfaction and performance and engagement metrics because they shift conventional learners into hands-on participants.

Adaptability represents one of the main values that gamification provides to organizations. The implementation of tracking tools and feedback elements through gaming mechanics lets users design individual learning strategies along with immediate evaluation processes (Hettiarachchi, Huertas, & Mor, 2015; Hettiarachchi *et al.*, 2015) ^[11, 12]. Skill acquisition receives improvement while professional identity development and self-efficacy enhancement becomes possible through these systems (Korhonen & Törmä, 2016; Pisto *et al.*, 2016) ^[17, 26]. Organizations that embed gamification methods into their career development frameworks develop an environment dedicated to continuous staff development.

Professional developers get scalable, engaging and reflective experiences through simulation-based learning (Choi *et al.*, 2015) ^[3], e-assessment (Hettiarachchi *et al.*, 2015) ^[12] and collaborative learning environments (Nami, Marandi, & Sotoudehnama, 2016) ^[21]. Leadership obtains the capability to back long-term learning targets through coaching and feedback processes (Hilton *et al.*, 2015; Netolicky, 2016) ^[13, 23].

The research investigates how gamification methods especially interactive progress metrics restore effectiveness to career developmental programs. The paper investigates theoretical concepts while studying practical applications which demonstrate their effectiveness for improving professional dedication and enhancing skills and achieving sustained career success.

2. Understanding gamification in career development

The current work paradigm along with changing career expectations makes professionals need constant adaptability and skill improvement. The established career development programs fail to maintain either motivation or engagement levels during sustained periods which reduces their effectiveness. Professionals can benefit from gamification techniques because these techniques embed game features into non-gaming environments to create more interactive, personalized and engaging professional development systems.

2.1 Theoretical foundations of gamification

The psychological and motivational principles offer an extensive theoretical base that sustains gamification as a practice. Within the context of gamification theory which integrates self-determination theory and behaviorist learning models the approach motivates users with both extrinsic and intrinsic factors such as autonomy and competence and recognition (Dicheva *et al.*, 2015; Gupta & Sharma, 2016) ^[4, 8]. Gamified systems build programmed structures that reward the individual's progress and efforts, which creates engagement patterns that boost participants' goal-oriented behaviour (Johnson *et al.*, 2016; Pansari & Kumar, 2017) ^[15, 25].

The advancement and long-term learning of career development depend critically on motivational engagement between professionals. A meaningful and rewarding experience leads professionals to start and complete their development pathways according to research by Al Mehrzi & Singh (2016) ^[1] and Graffigna (2017) ^[7]. Real-time feedback acts as a major reinforcement tool for self-efficacy growth together with career advancement rewards such as virtual achievements and tangible career developments (Evangeline & Ragavan, 2016; Hettiarachchi *et al.*, 2015; Korhonen & Törmä, 2016) ^[5, 11, 12, 17]. The perception of competence in adult learning environments is

influenced by feedback as much as it provides progress information (Netolicky, 2016; Hanington & Pillai, 2016) ^[23, 9]. Through precise balance of challenge together with progress and rewards learners establish realistic objectives and maintain accountability until they reach their small achievements which align with proven professional growth assessment methods (Knight *et al.*, 2017; Litano & Major, 2016) ^[17, 19].

2.2 Key components of gamification

The implementation of gamification elements relies on various features that include points, badges, leaderboards and challenges which have unique psychological characteristics and functional value. Points serve as measurable feedback tools which help users monitor their advancement whereas badges function as achievement indicators that produce feelings of achievement (Dicheva *et al.*, 2015; Negruşa *et al.*, 2015) ^[4, 22]. Leaderboards enable social comparison and competitive dynamics through which some individuals enhance their motivation especially when working in collaborative professional settings (Pansari & Kumar, 2017; Harmeling *et al.*, 2017) ^[25, 10].

Challenges in the form of milestones and tasks motivate users to follow set goals while developing endurance levels. Educational challenges benefit learners through "flow states" when they incorporate adjustable difficulty levels and feedback mechanisms according to Choi *et al.*, 2015 ^[3] and Hettiarachchi, Mor, Huertas & Guerrero-Roldán, 2015 ^[11]. The elements of goals and personal challenges specifically in digital learning environments function effectively to improve user experience and increase learning outcomes while developing long-term behavioral adjustments (Hilton *et al.*, 2015; Hettiarachchi, Huertas & Mor, 2015) ^[13, 11]. Through gamification individuals develop their professional identities while managing their careers because the system shows progress as ongoing achievements and perpetual development (Kulkarni, 2016; Pisto *et al.*, 2016) ^[18, 26]. Digital platforms and training systems with gamified features enable users to practice reflection and self-assessment. These elements are essential for adult career development according to Lowery-Moore, Latimer & Villate (2016) ^[20] and Nami, Marandi & Sotoudehnama (2016) ^[21].

The adoption of gamification into career development provides motivational strength with a focused guidance system that guides learners through dynamic skill sets. The implementation of feedback mechanisms with recognition features along with interactive progress tracking creates substantial opportunities for system-based transformation of occupational self-development processes.



Fig 1: Gamification Elements in Career Development

3. Strategies for implementing gamification

3.1 Interactive progress tracking

Effective gamification in career development depends on interactive progress tracking because this system serves as motivational and instructional features. People who can view clear advancement indicators become more motivated intrinsically and develop more self-confidence along with enhanced commitment. Through e-assessment, adaptive learning systems and gamified dashboards organizations gain the ability to assess skill development and learning achievements while providing this information real-time to learners (Hettiarachchi, Huertas, & Mor, 2015) ^[11]. The systems operate beyond monitoring performance since they enable employees to assess their learning process and modify their strategies during live activities (Hettiarachchi, Mor, Huertas, & Guerrero-Roldán, 2015) ^[11].

Employees experience a gaming dynamic in their personal development through visual indicators which track career progress milestones including leveling-up systems, skill maps and dynamic progress bars. Visual feedback sustains user engagement through showing the relationship between efforts and rewards and goal proximity information as per behaviorist learning theory and feedback-reward approaches (Choi, He, Chiang, & Deng, 2015) ^[3]. The practice of tracking progress allows students to develop metacognition skills that help them monitor their work and find specific assistance that fills their knowledge gaps (Gupta & Sharma, 2016) ^[8]. Through intelligent analytics systems the process operates in a personalized manner because the content difficulty adjusts and suggests targeted learning points to advance student empowerment in development activities.

3.2 Setting clear objectives and challenges

Gamification creates measurable outcomes when it establishes precise predefined objectives which represent both staff goals alongside organizational targets. The main difficulty in gamified systems stems from the improper integration of gameplay elements with actual performance measures. The use of gamified systems becomes short-lived when objectives fail to match jobs directly. The definition of clear development goals linked with business strategy leads employees to consider their participation meaningful for career advancement according to Knight, Patterson, & Dawson (2017) ^[16] and Litano & Major (2016) ^[19]. The successful maintenance of motivation requires the usage of challenges which grow increasingly complex. Gamified career development systems that draw from goal-setting theory and flow theory should maintain peak employee engagement by managing tasks against skill levels to avoid anxiety or boredom according to Al Mehrzi and Singh (2016) ^[1]. The combination of rising objectives, adaptive assignments and reclaimable educational content gives employees progressive satisfaction through achievement milestones. Pathways for career development can be organized through levels or thematic quests so employees can see their future professional advancement and gain satisfaction from current accomplishments (Popli, 2015). Culture-based smart challenges have the ability to personalize development experiences by adapting to both participant achievements and standards of performance.

The introduction of novelty via gamification mechanisms remains a vital approach when delivering routine operations. Conducting studies demonstrates that career development becomes more engaging when play is added to the process specifically in knowledge-driven workplaces (Graffigna, 2017) ^[7]. Practitioners should handle these initiatives carefully since misinterpretation could reduce the value of expert skills growth. Game mechanics which demonstrate true abilities and real

accomplishments create the strongest value that leads to sustained legitimacy.

3.3 Social engagement and collaboration

Gamification reaches maximum efficiency when it uses social activities to support growth among groups of people. Professional development programs utilize social interaction methods like team-based challenges and competition systems with collaborative tasks to raise educational participation and motivational levels (Negruşa, Toader, Sofică, Tutunea, & Rus, 2015) ^[22]. Social features in gamification systems create greater responsibility while making knowledge accessible during educational experiences that otherwise operate alone. Social learning theory stresses the significance of peer interaction for students to observe and model learning from one another because these elements form the basis of this theory.

Team-based challenges supply cooperative learning opportunities alongside the development of skills which include communication, leadership and problem-solving abilities that traditional classroom settings fail to teach (Hanington & Pillai, 2016) ^[9]. The implementation of leaderboards is useful for producing competitive results and also demonstrates joint achievements and interdisciplinary developments. Through gamified mentorship programs employees at different levels get connected to benefit each other in dynamic and productive relationships according to Nami *et al.* (2016) ^[21].

Systems with gamified peer feedback allow employees to access staged formats for sharing professional criticism and support services. Systems that reward employees with points for their contributions to the growth and development of their colleagues build a permanent learning environment and collective responsibility (Netolicky, 2016) ^[23]. Such engagement fosters team connection and task motivation which drives professionals toward increased organizational dedication and developmental growth (Korhonen & Törmä, 2016) ^[17]. The proper implementation of gamified career development methods needs complete research-based planning. Each component of interactive progress tracking together with clearly defined and adaptive challenges and social engagement mechanisms independently stimulates employee motivation and skill development and long-term commitment. Professional development achieves transformative power through gamification systems which designers develop intentionally by relying on psychological and organizational theories.

4. Benefits of gamification for professional growth

Gamification as part of professional development helps organizations create an active approach to boost workplace achievements alongside training effectiveness. Game mechanics and progress tracking specifically enable organizations to motivate professionals through intrinsic and extrinsic motivators, which impact their professional behaviour. This approach leads employees to demonstrate higher levels of motivation combined with extended commitment to learning and development paths.

4.1 Increased engagement and motivation

Organizational success together with employee productivity depends mainly on their engagement level. Standard employee development practices remain uninteresting to staff members since they implement passive methods with minimal interaction. Through gamification organizations solve this challenge by converting ordinary activities into entertainment-based experiences which enforce effort recognition, progressive marking and community participation (Graffigna, 2017) ^[7]. Several psychological mechanisms allow gamification to enhance engagement and motivation among users, which are:

- The implementation of gamified systems offers stepwise goals to employees which steer their activities toward important outcomes (Evangeline & Gopal Ragavan, 2016) ^[5].
- The fundamental human need for status recognition can be fulfilled by components such as badges and leaderboards and public acknowledgments (Pansari & Kumar, 2017) ^[25].
- The combination of self-directed learning and incremental achievement milestones enables personnel to control their progress thus demonstrating their growing competence through unlocked goals (Graffigna, 2017) ^[7].
- Through real-time feedback loops in gamification systems user retention gets strengthened while feedback helps users make necessary adjustments (Gupta & Sharma, 2016) ^[8].

Multiple studies with business applications demonstrate calculable impacts on business performance:

- Employee assimilation and retention prove higher with gamified onboarding programs because new hires exceed their colleagues in engagement results (Al Mehrzi & Singh, 2016) ^[1].
- Employee morale improves along with collaborative behavior when organizations implement progress dashboards with digital achievement records since this increase transparency and promotes fairness between workers (Hanington & Pillai, 2016) ^[9].
- Leaderboard techniques used in sales teams increase competitiveness according to Hilton *et al.* (2015) ^[13] while public awards for top performers sustain collective and individual motivation.

Thinkful gamification implementation creates psychological safety together with positive emotional climates when done with proper consideration. Employees working in gamified systems demonstrate increased willingness to share thoughts and take ownership of their work and actively request feedback because these behaviors represent key factors for professional development (Knight *et al.*, 2017) ^[16].

4.2 Skill development and continuous learning

The modern skill-building process requires training methods beyond passive protocols because it needs active experiential learning that selects from evolving employee needs. The learning experience becomes better adapted through gamification because it offers structure along with personalized feedback and clear student-driven goals.

Gamified platforms for learning promote:

- Small condensed learning segments called microlearning help workers memorize and implement new knowledge effectively as shown by Hettiarachchi *et al.* (2015) ^[11, 12].
- The system adjusts challenge difficulty according to user performance results thus allowing individuals to set their own learning pace while developing competencies (Hettiarachchi *et al.*, 2015) ^[11, 12].
- Training through scenarios uses simulations that help employees develop necessary practical abilities while teaching them ways to make decisions in real-world situations (Choi *et al.*, 2015) ^[3].

The continuous learning process receives support through gamification through two main features:

- Gamification through Layered Learning strengthens students to develop perpetual learning approaches that surpass basic training frameworks (Nami *et al.*, 2016) ^[21].
- The process of learning through simulated situations allows employees to develop better adaptability skills since they acquire abilities in lower-risk repetitive environments

(Litano & Major, 2016) ^[19].

- The implementation of gamified brainstorming challenges combined with problem-solving actions leads organizations to encourage diverse thinking processes and experimentation according to Knight *et al.* (2017) ^[16].
- The social elements of gamification also contribute to professional development by enhancing communication, mentorship, and knowledge-sharing:
- Group-based assignments and collaborative objectives help both learning and team solidarity grow between peers (Hanington and Pillai 2016) ^[9].
- Team members develop trust and create accountability through peer feedback elements such as shared scoreboards combined with community voting according to Pisto *et al.* (2016) ^[26].
- The tracking system for community progress enables staff members to assist their colleagues develop and collaborate to achieve shared objectives (Gupta & Sharma, 2016) ^[8].

Organization goals receive the highest importance when gamification creates alignment between individual growth and company objectives. Workers complete tasks with greater frequency because performance reviews and career advancement opportunities become directly associated with skill-building activities as per Pansari and Kumar (2017) ^[25]. Gamified training programs with achievement indicators as well as interactive modules and progressive learning paths both resolve present-day performance issues and develop future business leaders and innovation among workers.

5. Measuring the success of gamification strategies

5.1 Key Performance Indicators (KPIs)

Organizations need to select Key Performance Indicators (KPIs) that monitor employee engagement while tracking progress because this helps assess gamification strategy success. Through KPIs organizations gain both measurable information and the capability to evaluate the effectiveness of gamification approaches in developing desired employee conduct such as motivation and productivity along with learning progress.

5.1.1 Metrics for tracking engagement and progress

The central aspect of employee gamified system interaction evaluation comes through engagement metrics. Two main indicators of engagement exist for gamified systems. The participation rate measures employee involvement numbers in gamified activities and completion rates track achievements in game levels (Anderson & Dill, 2000). The frequency of system usage and leaderboards provide organizations with indicators to measure employees' competitive motivation and persistence during use. The systematic observation of these metrics allows organizations to spot employee disengagement patterns because Seaborn and Fels (2015) ^[29] verify this method.

The metric of time spent on activities allows organizations to understand if workers devote sufficient attention to their development needs. Task completion progression rates help organizations determine how challenging their gamified systems must be by preventing participant overload (Xu *et al.*, 2018). These engagement factors together serve as the base for assessing how gamification approaches affect user engagement success rates.

5.1.2 Analyzing employee feedback and satisfaction

Employee experiences should be evaluated using qualitative feedback because this data provides essential insights that complement the quantitative metrics which show participation rates and progress metrics. The assessment of participant satisfaction and motivation needs subjective feedback which can

be gathered through scheduled employee surveys and interviews and focus group discussions. Reviews about game mechanic fairness and activity relevance to career advancement together with user enjoyment ratings will show what makes gamified approaches succeed or fail (Deterding *et al.*, 2011). Employee involvement throughout the assessment process according to Choi *et al.* (2015) ^[3] allows organizations to develop improved gamification approaches by using workers' practical insights which create systems that fulfill user needs and advance career development.

The emotional response of employees toward gamified activities can become more understandable through sentiment analysis of their feedback. The sentiment of feedback indicates either growing employee motivation and dedication to tasks or reveals existing confusion or frustration which organizations must solve to maintain activity involvement (Caponetto *et al.*, 2020) ^[2]. The analysis of ongoing feedback helps organizations improve gamification tactics that sustain employee motivation toward the gamified processes.

5.2 Long-term impact on career development

Organizations must determine the lasting benefits of gamification on career development to properly evaluate its enduring value. Long-term assessment tools analyze gamification effects on professional growth and skill enhancement together with career progress made throughout time rather than measuring immediate user engagement which short-term KPI metrics aim to track.

5.2.1 Success stories and testimonials from organizations

The assessment of gamification success over time depends heavily on gathering positive feedback from companies that have introduced these systems to their operations. Game-based training together with professional development programs established by Graffigna (2017) ^[7] lead organizations to keep their employees while simultaneously helping them excel in their careers. The corporate leadership development programs at Deloitte and IBM employ gamification techniques successfully to help employees acquire new skills and foster engagement and identify specific career development landmarks according to Gartner (2019) ^[6].

Employee gamification provides entry to obtain core competencies and certifications that advance career

opportunities according to multiple successful cases. When employees complete gamified learning initiatives they simultaneously develop their technical abilities and achieve better job satisfaction with professional success indicators. Using qualitative success metrics demonstrates the strength of gamification as an effective method to produce extended career gains that can be measured.

5.2.2 Future trends in gamification for career growth

Future developments with VR and AR technology and AI systems will create enhanced gamification strategies which enhance their effectiveness. Cutting-edge technologies enable the creation of adaptable learning realms which adapt automatically to workers' personal requirements and professional aspirations according to Johnson *et al.* (2016) ^[15]. VR technology allows employees to engage in realistic virtual simulations that enable the practice of problem-solving along with decision-making and leadership skills within a gamified environment. Through personalized AI experiences, the difficulty of tasks automatically adjusts according to employee performance to maintain active challenges that support development without employee burnout (Yuan *et al.*, 2020) ^[34]. These technology innovations possess the potential to advance gamified career development systems while easily creating new records of employee engagement. The technology developments will make gamification more individualized so platforms can provide customized development tracks that serve employee goals and enterprise requirements (Huang *et al.*, 2020) ^[14]. The idea of gamified career development platforms will advance toward using advanced reward features that allow users to create skill-based portfolios which benefit their professional advancement and open new career prospects.

Organizations must use a detailed method to gauge gamification success which requires analysis of immediate KPI performance and career development performance throughout time. Gaming metrics along with specific employee assessments and collected performance achievements allow organizations to validate their gaming approaches that build short-term participation alongside long-term career development. Advanced technologies in gamification development will boost its capability for shaping employee development and retention while offering career success tools to staff members.

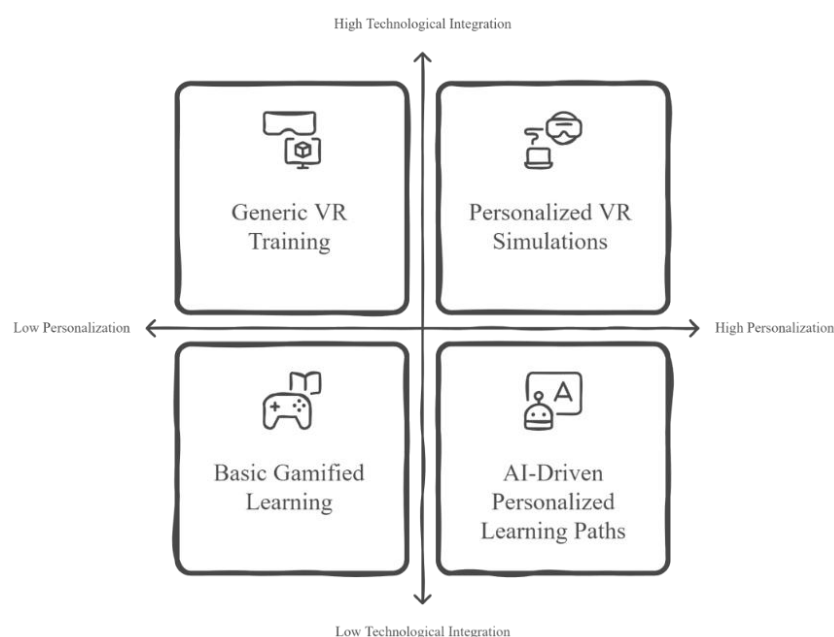


Fig 2: Gamification Strategies in Career Development

6. Challenges and considerations

Implementing gamification for career development needs careful consideration because it carries various positive benefits that can be challenged if not managed properly. Organizations need to handle several vital factors to construct gamification systems which offer both success and inclusivity to their users.

6.1 Potential pitfalls in gamification implementation

- **Overemphasis on competition versus collaboration:** Worker competition becomes the primary workplace issue when companies use gamification strategies. The main disadvantage of strong individual performance focus is that it ends up producing burnout and stress which drives down team collaboration (Al Mehrzi & Singh, 2016) ^[1]. The practice of making employees compete against each other in a winner-takes-all format leads organization to lose their team spirit, expand tension levels and deplete employee morale. The work environment becomes threatened by such issues when collective success determines performance outcomes. Organizations must maintain a proper balance between performance competition and collaborative activities to enable team members to distribute rewards and get recognition together (Gupta & Sharma, 2016) ^[8].
- **Ensuring inclusivity and accessibility for all employees:** The digital platforms used in gamification systems sometimes produce accidental accessibility problems that affect two types of employees including employees with technology limitations and players who struggle with gamified mechanics (Evangeline & Gopal Ragavan, 2016) ^[5]. Leadership badges along with digital scores become difficult to use for personnel whose skills or resources are inadequate and motivational drive is insufficient. Individual performance-based gamification mechanics create outer alienation towards employees who have a preference for teamwork or lower competitiveness. The organization requires accessible games systems for all employees since technical ability along with physical constraints and work choice needs should not limit participation (Graffigna, 2017) ^[7].

6.2 Strategies to overcome these challenges

- **Balancing competition with teamwork:** The safety of employees from excessive competition becomes possible through the implementation of collaborative structures within gamification systems. The solution involves creating team-based challenges because they combine group objectives with tasks that must be completed in collaboration for employee success. The implementation of group-based benefit systems stimulates teamwork by motivating workers to work together instead of racing against each other. Through team-focused contests organizations can develop a workspace that honors group achievements with equal weight to individual achievements thus promoting collective success. The implementation of this method minimizes bad competition while promoting collective organizational unity through shared support among staff members (Knight, Patterson, & Dawson, 2017) ^[16].
- **Customizing gamification to fit diverse work cultures:** Every organization maintains its distinct workplace tradition that rules out standard gamification solutions for all teams. Teams across different departments possess distinct values together with unique objectives and work methods which designers should integrate into their gamification system creation. Organizations focused on service excellence should implement game-based recognition for outstanding customer service performance but research-based companies should base their

gamification on recognizing innovative research work. An organization's unique needs and cultural context direct which gamification elements should be applied because this creates engagement value and relevant application for better effectiveness. Gamification features become more effective because behavioural customization enables employees to interact differently with the system to prevent exclusion or disengagement (Negruşa *et al.*, 2015) ^[22].

Strategic design along with considered implementation of these challenges enables organizations to establish gamification as a developmental force that benefits individual employees and team unity. Such strategic integration results in an environment that supports unity between employees while creating sustainable work environments that achieve long-term success.

7. Conclusion

Gamification approaches to enhance career development establish themselves as efficient methods to improve employee growth and workplace engagement. Geriatric research shows that gamification drives employee motivation while sustaining continuous learning with skill enhancement leading to better employee growth. The components of gamification systems including points along with badges and leaderboards set up forceful tools which boost preferred behavior reinforcement and make workspaces more exciting and energetic. Gamification in career development demonstrates encouraging growth potential because it shows the ability to advance within numerous industry sectors. Organizations will uncover more opportunities to use gamification approaches for both worker engagement improvement and life-long professional learning and workplace adaptation in their ever-transforming work environments. The development of gamified experiences will expand through virtual and augmented reality technology which creates highly interactive learning environments for users.

Organizations must implement gamification strategies since research has confirmed that positive outcomes enable them to develop workforce engagement and expertise. Tabletop game methods adopted by businesses successfully lead to higher worker happiness and optimum performance and market control within contemporary business situations. When organizations plan correctly they can use gamification to create a powerful method that helps them develop stronger careers and retain employees successfully.

The increasing acceptance of gamification strategies by businesses will lead them to increase their investments in gamification which will benefit their organizational success along with individual career advancement. Gamification in career development can expect future success through persistent growth and innovation to produce advancement in both personal and organizational outcomes.

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