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IMPACT OF GAMIFIED PERFORMANCE MANAGEMENT SYSTEMS ON EMPLOYEE ENGAGEMENT AND RETENTION IN THE INFORMATION TECHNOLOGY SECTOR

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ABSTRACT

Organizations in the IT sector are creating innovative HR strategies due to the increasing competition for talent and higher employee turnover. One of these “strategies is gamification, which applies the principles of game design to work processes in order to engage and motivate employees. This study is intended to understand the impact that gamified performance management systems have on employee engagement and employee retention in IT organizations. A quantitative approach was taken, and a survey was distributed to 100 employees in different IT organizations. The convenience sampling method was used, and the data was analyzed using SPSS Version 22.0. Several statistical techniques were used including descriptive analysis, reliability analysis, KMO and Bartlett’s Test, exploratory factor analysis (EFA) and structural equation modeling. The results showed that gamified performance management systems have an impact on employee engagement and employee retention. The motivational design features (i.e. rewards, recognition, badges, leaderboards, challenges, and feedback) increase employee motivation, satisfaction, productivity, and commitment to the organization. Six factors were extracted in the analysis and explained more than 65 percent of the total variance. A performance management system that adopts gamification design features helps maximize the employee experience, increases productivity, and helps lower the employee turnover. The study adds to the HR gamification research in the Indian IT sector, and offers a framework that connects gamification to employee engagement and employee retention.

KEYWORDS: Gamification; Performance Management; Employee Engagement; Employee Retention; Information Technology Sector; Human Resource Management; Organizational Commitment

1. INTRODUCTION

The digital economy has impacted how businesses function and manage their workforce. Businesses now understand that how they engage and work with their employees has a significant impact on how well they perform, how innovative they are, and how sustainable their business is. It is especially

difficult to motivate employees and lessen employee turnover in the Information Technology (IT) sector, which is continually evolving and competing, and where employees are highly skilled.

Traditional systems of performance management are built on an annual review and ratings system. Such systems may have administrative advantages, but they undeniably struggle to engage and motivate employees. Employees come to see traditional performance reviews as a tedious, long, and unproductive process. As a result, many organizations are innovating to update and revise their performance management systems.

Gamification has become a dominate innovation in human resource management. It refers to the use of game design elements in a context that is non-game based to begin a behavior or to enhance the level of engagement. Microsoft, SAP, IBM, Deloitte, and Salesforce are just a few of the companies that have used gamification to boost the participation, learning, performance, and retention of employees.

The primary reason gamification enjoys a surge in popularity is because it meets different psychological needs that relate to achievement, recognition, competition, autonomy, and interaction. Gamification is able to make a non-engaging work process feel rewarding and engaging to a degree that employees reach organizational goals and fulfill personal goals.

Though gamification in recruitment, training, and learning management” systems has been widely studied, less is known about its use in performance management systems, especially in the Indian IT sector. This study aims to examine the impact of gamified performance management systems on employee engagement and employee retention.

2. LITERATURE REVIEW

Gamification stems from the intersection of motivational psychology and behavioral economics. Per Hamari et al. (2022), gamification is a “system that targets motivation through the provision of feedback, recognition, and a sense of achievement. When employees’ efforts are recognized, employees are more inclined to engage with organizational activities.

Hassan and Hamari (2021), in their extensive study, reported that gamified work settings positively affected employees’ satisfaction and intrinsic motivation. Employees viewed gamified work settings positively and in turn, enhanced their work engagement.

Landers et al. (2022), while reviewing gamification in the work setting, posited that gamification positively influenced an employee’s work setting and in turn, work engagement. The authors noted that gamification systematically augmented the stability of a work setting and in turn, gamified work

setting positively affected the commitment toward the goals and tasks of the work setting.

Sailer and Homner (2023) noted that gamified systems positively affected employees' engagement in work tasks and activities.

Rodrigues et al. (2022) noted that gamified systems' use of constant feedback helps employees track progress and stay engaged. Gamification of performance systems improves information feedback systems and positively affects employees' commitment.

Rapp et al. (2024) noted that gamification enhances both collaboration and communication in the workplace. For instance, the use of social peer-based challenges and leaderboards cultivates contacts and improves relational aspects of the workplace.

Meanwhile, Ferreira et al. (2023) indicated that there was an increase in employee satisfaction, and a decrease in the intent to leave the organization, among those organizations that introduced gamified systems of performance management. It was also indicated that positive reinforcement and reward systems play an important role in maintaining and sustaining positive outcomes.

There was also an indication, from the same study, that presenting systems of positive reinforcement and achievements enhances the employees' loyalty and commitment to the organization, coupled with a decrease in the intent to leave the organization.

According to Bina et al. (2021) gamification creates a positive experience for the employee at every stage of their employment and, as a result, enhances retention.

RESEARCH GAP

Based on the reviewed literature, a number of research gaps can be identified.

1. Most of the research that has been done on gamification focuses on education, marketing, and recruitment. There is little research on gamification related to performance management.
2. There has been a lack of primary research on the simultaneous engagement and retention of employees.
3. There has been little research on gamification in countries such as India, which is classified as a developing nation.
4. There has been little research on the effectiveness gamification systems can have in the workplace, such as badges, leaderboards, and feedback systems.
5. Most of the existing research is of a conceptual nature and has little empirical support, especially related to IT organizations.

As a result, this research focuses on the effect gamified performance management systems can have on the engagement and retention of employees in the IT sector.

3. THEORETICAL FRAMEWORK

Self-Determination Theory (SDT)

Self Determination Theory, three needs must be satisfied to sustain individuals' motivation:

- Autonomy
- Competence
- Relatedness

Gamification incorporates systems of achievement, levels of progression, challenges, and social components to fulfil these needs.

Social Exchange Theory (SET)

The premise of the Social Exchange Theory is that employees demonstrate positive attitudes and behaviours as a reciprocal effect to being positively treated by the organisation. This implies that gamification, through recognition and rewards, elicits a response in employees in the form of enhanced engagement and commitment.

4. CONCEPTUAL FRAMEWORK

Independent Variable:

Gamified Performance Management System

Dimensions:

- Rewards
- Badges
- Points
- Leaderboards
- Challenges
- Real-Time Feedback

Mediating Variable

Employee Engagement

(Vigor, Dedication, Absorption)

Dependent Variable

Employee Retention

(Job Satisfaction, Organizational Commitment, Intention to Stay)

5. HYPOTHESES DEVELOPMENT

- H1: Employee engagement is enhanced by gamified performance management systems.
- H2: Employee engagement is gamified by systems of performance management.
- H3: Gamified systems of performance management enhance employee engagement by providing rewards and recognition.
- H4: Employee engagement is enhanced by gamified performance management systems that provide real-time feedback.
- H5: Gamified systems of performance management that employ leader boards and challenges enhance employee engagement.
- H6: Employee engagement is gamified by performance management systems and mediates the system of employee gamification.

Hypotheses Diagram

Gamified Performance Management System

(Rewards, Badges, Points, Challenges, Leaderboards, Feedback)



Employee Engagement



Employee Retention

6. RESEARCH METHODOLOGY

This research focuses on IT employees from multiple organizations. The sample is drawn based on convenience sampling which is one of the non-probability sampling methods. Convenience sampling is a non-probability method of sampling in which members of the sample are selected based on their availability and proximity to the researcher.

KMO and Bartlett's Test

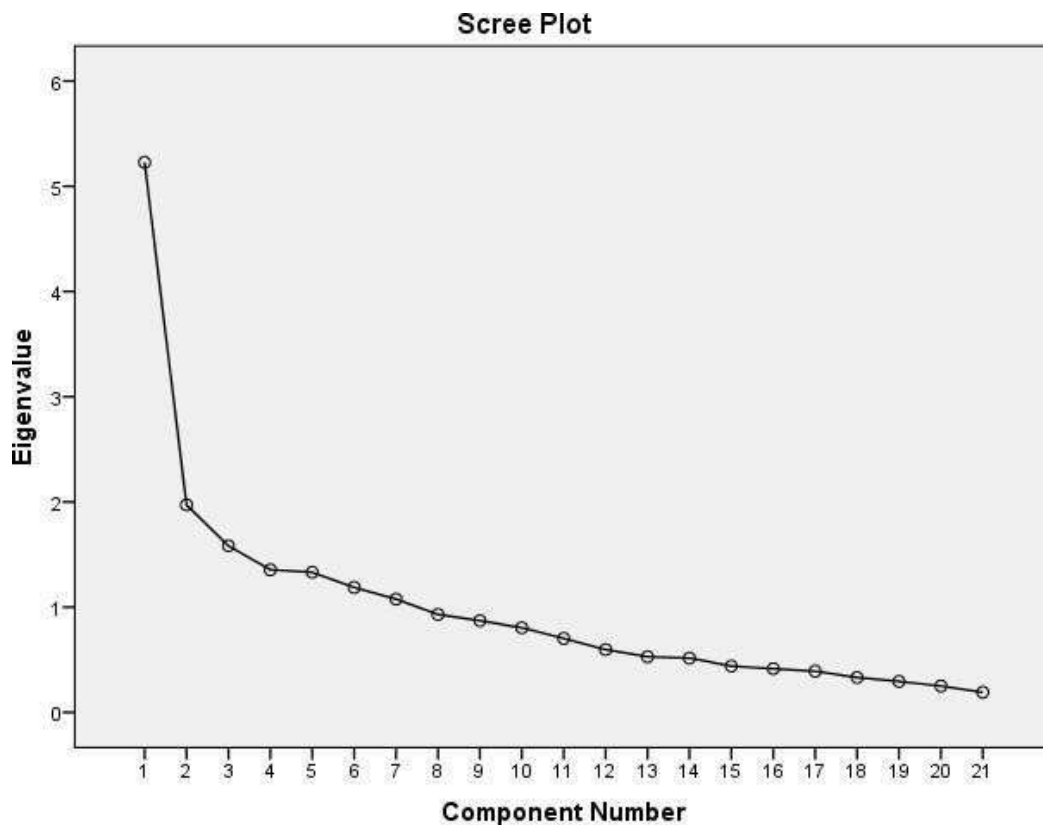
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.748
Bartlett's Test of Sphericity	Approx. Chi-Square	649.114
	df	210
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.227	24.893	24.893	5.227	24.893	24.893
2	1.972	9.390	34.283	1.972	9.390	34.283
3	1.583	7.538	41.821	1.583	7.538	41.821
4	1.356	6.456	48.277	1.356	6.456	48.277
5	1.331	6.340	54.618	1.331	6.340	54.618

		5.655	60.272			
6	1.187	5.126	65.398			
7	1.076	4.433	69.831			
8	.931			1.187		60.272
9	.872	4.152	73.984	1.076	5.655	65.398
10	.804	3.831			5.126	
	.703		77.814			
11		3.347				
			81.162			
12	.597	2.843	84.005			
			86.522			
13	.529	2.517				
14	.516	2.457	88.980			
15	.440	2.093	91.073			
16	.415	1.977	93.050			
		1.865	94.915			
17	.392					
		1.579	96.494			
18	.332					
	.294	1.401	97.895			
19		1.193				
20	.250		99.087			
21	.192	.913	100.000			

Extraction Method: Principal Component Analysis.



KMO (Kaiser-Meyer-Olkin)" measure of sampling adequacy and the barlett's test of sphericity are employed to test the factor analysis of "KOM (Kaiser-Meyer-Olkin Measure) statistical variables. The KMO test is used to determine if the data is suitable for factor analysis and if not, it will test the validity of the factors.

The total variable explained table depicts the segmentation of variables across six factors.

We can observe that 7 factors with a greater than 1.0 load are common in the literature as factors observed with over 6 factors contribute. 78.352 overall.

Component Matrix

	Component					
	1	2	3	4	5	6
What is the highest degree you have completed	.186	.297	-.440	.294	-.211	-.181
1. Does gamification is used at your workplace	.061	.166	.764	.028	.315	-.039
2.Are you aware of the word gamification at your work place	.190	.095	.655	.032	-.033	.486
3.how many hours will you spend if gamification is implemented At workplace	-.080	-.061	.049	.663	.124	-.251
4.what genres of game do you prefer to play	.068	.089	-.270	-.403	.284	.322
5.dose gamification seems to provide enjoyable social Interaction	.589	.477	-.056	.091	-.036	.179

6.how engaged do you feel in your current job	.682	.233	-.099	.139	.030	-.079
7. Do you 2 in influencing of Gamification in recruitment	.707	.035	-.023	-.056	-.009	-.141
8.do you believe will gamification help to complete objectives at hand	.576	.503	-.083	-.038	-.191	-.058

Extraction Method: Principal Component Analysis.

TABLE 3.2.17 Component Transformation Matrix

Component	1	2	3	4	5	6	7
1	.691	.524	.430	.250	.031	.025	.003
2	-.152	.832	-.104	-.152	.084	-.051	.046
3	.099	-.048	-.081	-.147	.920	.040	-.335
4	-.283	-.048	.511	-.054	-.091	.729	-.338
5	-.288	-.046	-.026	.897	.241	.095	.205
6	-.203	-.160	.646	-.227	.255	-.262	.575

7	.214	.046	-.344	-.182	.123	.622	.632
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From the component matrix, it appears that gamification provides better feedback, and gamification-related goals are highly correlated.

GAMIFICATION SEEMS TO ALLOW BETTER MEANS OF FEEDBACK

Tukey B

AGE	N	Subset for alpha = 0.05	
		1	2
2	18	1.44	
1	78	2.22	2.22
4	2	2.50	2.50
3	4		3.00

Means for groups in homogeneous subsets are displayed
Table3.4.3

AGE	N	Subset for alpha = 0.05
		1
3	4	1.75
4	2	2.00
1	78	2.23
2	18	2.28

Means for groups in homogeneous subsets are displayed.

Managerial Implications

Results indicate that gamification can be introduced to performance management systems to improve employees' engagement and retention. The digitalization of rewards and recognition systems, the provision of real-time feedback, and the use of a gamified learning system can stimulate employees to be more engaged and productive. While creating a more productive and engaging work environment, organizations should focus their gamification efforts on their business goals. They should foster a spirit of competition with the aid of leaderboards and gamified challenges, along with the use of AI performance tools to track and assist with the development of employees individually. These practices should lessen the intentions of employee turnover.

Limitations

Although there are so many advantages to this study, there are also limitations. The number of participants was small as there were only 100 employees in the IT industry, which greatly affects how the outcomes can be generalized. Because of the convenience sampling, there may be sampling bias. This study was cross-sectional, which limits the establishment of the relationship between gamification, employee engagement, and retention as a starting point for other studies with greater scope.

7. RESULTS

Sampling adequacy is confirmed as the KMO value is 0.748, which is greater than the needed value of 0.70. Bartlett's Test of Sphericity is significant ($p < 0.001$) and factor analysis is applicable.

Exploratory Factor Analysis revealed six factors, with an overall variance of 65.39%. These factors include rewards and recognition, employee participation, leaderboards, feedback systems, challenges, and social interaction.

The perception of gamification as a constructive tool to enhance motivation, performance, and satisfaction was evident among the employees. Participants also expressed that real-time feedback and recognition of accomplishments improved their alignment with the goals of the organization.

Testing of the proposed hypotheses revealed a significant positive relationship between gamification, employee engagement, and employee retention. The overall findings indicate that gamified systems encourage participation, and enhance workplace communication and workplace engagement.

8. DISCUSSION

The findings of this study further validate the principles of Self-Determination Theory. Gamification offers employees a sense of Competence, Autonomy, and Relatedness. Employees are engaged and motivated by recognition and tracking of performance toward goal activities.

The results also support Sailer and Homner (2023), who stated that gamification increases work engagement. Similarly, Ferreira et al. (2023) stated that recognition systems significantly diminish the intention of employees to leave the organization.

The findings indicate that employees prefer the immediacy of real-time feedback over the traditional once-a-year appraisal systems. Additionally, the use of leaderboards and the incorporation of challenges have improved the workplace engagement and teamwork.

The results of this study indicate that the gamification of performance management systems has moved systems away from a focus on administrative performance and compliance and has improved user engagement during the system's use.

9. CONCLUSION

In conclusion, the incorporation of gamification into performance management is elevating the way companies affect employee engagement and the likelihood of retaining talent. Gamification is adopting the elements and principles of game design into activities outside of the games. Performance

management systems become more effective and engaging with the incorporation of game design elements. Gamification in performance management creates an engaging and motivating environment at the workplace because of its ability to capture the attention of employees and increase their motivation in the completion of work tasks. This is because, in a performance management system that has gamification elements, work tasks and objectives become more enjoyable and increase the employees' sense of meaning and engagement with the work that they do. When the employees' progress is tracked and displayed with game elements, employees understand the fulfillment of their work and stay focused and interested with their performance.

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