



ELIT

Economic Laboratory Transition
Research Podgorica

Montenegrin Journal of Economics

Prasad, K., Mangipudi, M.R. (2021), "Gamification For Employee Engagement: An Empirical Study With E-Commerce Industry", *Montenegrin Journal of Economics*, Vol. 17, No. 4, pp. 145-156.

Gamification for Employee Engagement: An Empirical Study With E-Commerce Industry

KDV PRASAD¹ and MRUTHYANJAYA RAO MANGIPUDI²

¹ Honorary Faculty, IHRD, Financial District, Gachibowli, Telangana, India, e-mail: prasadkanaka2003@yahoo.co.in

² Senior Manager, Karvy Stock Broking Limited, Financial District, Gachibowli, Hyderabad-500032, e-mail: raoman-gipudi@gmail.com

ARTICLE INFO

Received July 30, 2020
Revised from August 22, 2020
Accepted September 24, 2020
Available online June 15, 2021

JEL classification: L24; M30, M50

DOI: 10.14254/1800-5845/2021.17-2.12

Keywords:

Gamification,
environment,
employee engagement,
motivation,
resource pooling

ABSTRACT

The purpose of this empirical study is to examine the gamification, a method of applying game mechanics into nongame contexts, like team building, and simulation of games, behavioral change and motivation can be applied to enhance the employee engagement and quality of work, and report the outcome of the study. The data collected from one hundred and sixty (160) employees, are subjected to the both non-gamified and gamified environment to assess their engagement levels. The effect of three independent variables, intrinsic motivation, extrinsic motivation and behavioral change on dependent variable employee engagement assessed. The study variables measured using Likert-type questionnaire, under both the non-gamified and gamified environments. The research instrument was reliable and maintained internal consistency as assessed by Cronbach alpha Cronbach's Alpha, Split-Half (odd even correlation, and Spearman-Brown Prophecy. The study design is based on positivist approach has been used with a structured research design, quantitative data gathered, hypotheses formulated and tested, the data empirically analyzed using appropriate statistical methods, A Descriptive Research Method using a survey, with specific hypothesis were tested, deductions and inferences were drawn. The multiple regression analysis revealed that the gamification elements intrinsic motivation and behavioral change statistically significant and influencing the employee engagement under the gamified environment. There were no statistically significant gender, age, and function group differences were observed. The authors observed that the gamification can be used for enhancing employee engagement and quality of work in any industry.

INTRODUCTION

The gamification as a tool, is being successfully applied in several areas of organization in general, and to enhance employee engagement in particular. Employee engagement is the main concern for several organizations as the outcome of performance depend on this aspect. The organizations across the world apply several tactics like group meetings, team buildings, social gatherings to motivate the employees and enhance the work quality and operational efficiency. Several studies reported that the gen-

eration Y always been positive and influenced by challenges and games, and gaming being viewed as a routine exercise in new-age organization perspectives. This paradigm changes in professional approach lead to a social change accepting game mechanics in non-gaming contexts (Raftopoulos, 2014). Over a decade several studies reported success stories and implications of gamification in business context delineating a clear difference between gamified and non-gamified business environment, and in particular improved levels of employee engagement (Robson et al., 2016). The rewards, points, and leader roles are some of the game-based elements applied to engage and motivate the employees in the workplace (Carolina Duncan, 2019). Team building, group games and trivia competitions generally used to motivate the employee in workplace. It was reported that about seventy percent (70%) of United States workforce actively disengaged from work and the present employee's engagement is very low (Filza Naveed, 2020).

Several organizations are incorporating fun elements in the gaming exercises like quiz and group competitions with rewards. Fischer (2017) noted that gamification provides a game logic to improve productivity in business. Gamification can be used in consumer marketing through company websites, using points, leader boards and rewards (Huotari and Hamari, 2017). Using gamification if the principles of game design applied correctly non-gaming contexts that can change or alter the employee behavior for better performance and can increase engagement. Robson et al., (2016) successfully used the gamification to improve the customer and employee engagement, and delineate different types of employees and customers who act as 'players' in gamified experiences. Hari Kumar and Satish Raghavendran (2015) provided a framework to handle employee engagement in large organizations by offering challenges to the talented professional to contribute thoughtfully to the organization irrespective of their position and hierarchy. Gupta and Gomati (2017) critically reviewed the application of gamification in changing the human behaviour applying gaming activities for enhancing employee engagement.

1. REVIEW OF LITERATURE

Wafa Hammedi et al., (2017) used gamification tools to investigate the effects of gamification mechanics, and principles on user engagement in and reported gamification can be used successfully to enhance the patient wellbeing in healthcare industry. Gamification is a novel and new-age strategy to enhance operational efficiency and improved employee engagement. The gamification is embedding of game elements, artefacts and gam-mechanics in non-gaming contexts to enhance the engagement of people, motivate employees, promote learning to provide solutions to the problems of any kind (Kapp, 2013). The gamifications principles were used in defence and corporate training. The gamification if applied correctly play crucial role in organizations business strategies and will be powerful motivating factor (Donato and Link, 2013). Several web-based marketing strategies are based on gamification which consist of points, leader boards and rewards. Gamification can be successful and productive even where the areas the performance declined drastically and definite of need enhancement such business organizations, health care systems and educational institutions (Fitz-Walter, 2011). Michael ong (2013) studied the effect of gamification in perceptual diagnosis tasks for objectively measuring motivation and the study concluded that gamification technique can be used in real world for intrinsic motivation.

The gamification principles can be used to in human resources to enhance the employee performance. Prasad et al., (2019) reported several benefits on applying gamification and resource pooling better management of human and resources and enhancing employee efficiency. Carla Wilson (2015) successfully implemented the gamification technique to increase the student engagement creating a French gamified learning environment. The serious games also contributed significantly to the gamification and these are used for training, performance enhancement and other non-gaming contexts. Kapp (2013) reports that serious games are a branch of gamification and build on learning context. Werbach (2013) further suggested that serious games environment is what exactly they are applying in gamification. Though the gamification is relatively new field the word coined by Nick Pelling in (2011) if used efficiently using the game elements, game-design techniques in non-gaming contexts the results will be surprising. Saima Hussain et al. (2018) presented how gamification enhances the employ engagement using both controlled and experiment environments.

2. STATEMENT OF THE PROBLEM AND RESEARCH GAP

An internal survey of the E-Commerce Industry in Hyderabad it was observed serious disengagement of employees including executives, managers in certain functional areas, due to lack of motivation, boredom, and lack of enthusiasm in their work. The employees are not organization functionally and carry out mundane activities mechanically without applying much knowledge or brain. There is a need of enhancing employee engagement and create motivation in certain functional areas like, Accounts and Finance, Human Resources, Business Development, Product Development, Learning and Development, Infrastructure, Security and Transport, and Administration. There is no literature available on application of gamification in E-commerce industry. To address this problem a gamified environment and application of gamification tools proposed to enhance the employee engagements, operations efficiency and quality of work. The intrinsic and extrinsic motivation, team building, and behavioral change gamification approaches are applied and results are presented.



Figure 1. New operational structure with four functional units and gamification

However, prior to gamification eight said functional areas identified where the employees are disengaged that eight functional areas pooled into 4 functional areas a) Accounts and Finance and Administration b) Human Resources and Learning Development c) Product Development and Business Development d) Facilities Management. The change and four functional areas were informed to the employees in the organization. Further, employees were asked to propose their choice of functional area he/she wish to work, as the interested work improves motivation and enhances employee engagement. The need for resource polling is needed to improve certain activities as listed below (Figure 1):

- Remove the responsibility of operational and logistical execution of all routine tasks from managers and executives to focus on methodology, strategies and automation
- Standardize the processes, focus on methodology, effectiveness and enhance efficiency, and result delivery
- Greater continuity and potential to make it more attractive to retain the best talent and offer a career path
- Specialization teams will be developed with better skillsets and increase quality and precision of tasks

Why Gamify?

- To improve the quality tremendously and save resources
- Present structure is slow and expensive
- New structure will work under gamified environment will improve quality, quick and saves resources
- Most of the routine activities can be automated and done online

Objective. To apply gamification techniques, like leader boards, rewards, team building exercises, motivation and behavioral change to enhance the employee engagement and quality of work

2.1 Hypotheses

H_{a1}: There is a significance relationship between intrinsic motivation and employee engagement in non-gamified environment

H_{a2}: There is a significance relationship between extrinsic motivation and employee engagement in non-gamified environment

H_{a3}: There is a significance relationship with between behavioral change and employee engagement in non-gamified environment

H_{a4}: There is a significance relationship with between intrinsic motivation and employee engagement in gamified environment

H_{a5}: There is a significance relationship with between extrinsic motivation and employee engagement in gamified environment

H_{a6}: There is a significance relationship with between behavioral change and employee engagement in gamified environment

3. THEORETICAL FRAMEWORK

The theoretical framework of gamification using the models of Prasad et al. (2019) presented in Figure 2 and Figure 3.

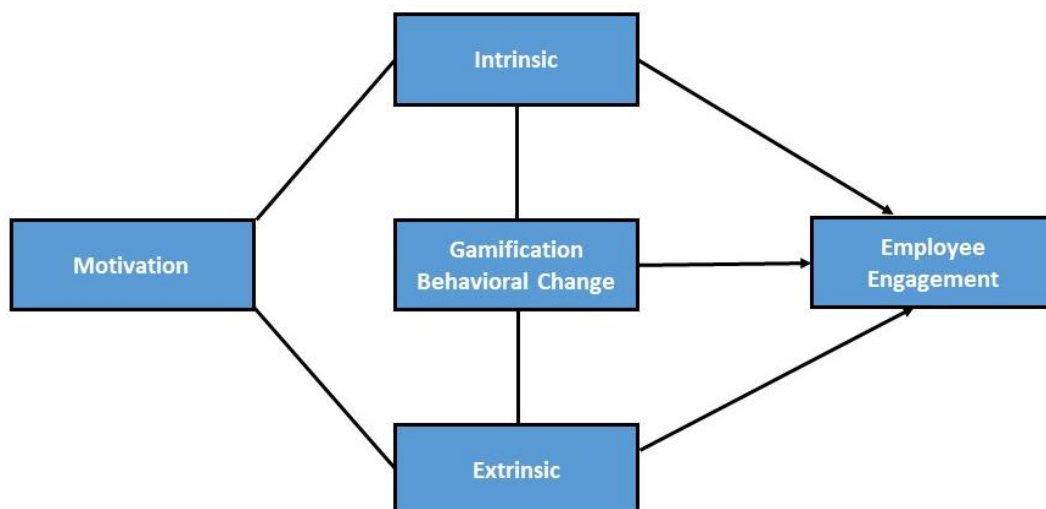


Figure 2. Theoretical frame work gamification elements and employee engagement

3.1 Research Instrument and Reliability

Measurement of independent and dependent factors: The research instrument used for study is based on a 5-point Likert-type scale and the values ranged from Strongly Agree 5, to Strongly Disagree 1, for the three study variables intrinsic motivation, extrinsic motivation (independent variables) and employee engagement (dependent variable) following models of Schaufeli et al. (2006) for employee engagement and (Khan and Iqbal, 2013). The other independent variable behavioral change measured on 7-point scale based on the Job Engagement Scale model (Rich et al. 2010). Using linear transformation methods, the values of this scale converted to 5-point scale (IBM SPSS, Prasad et al. 2020).

Reliability of the instrument: The overall Cronbach alpha statistic (Cronbach, 1951) measured at (0.85) whereas another reliability statistic Split-Half (odd even correlation) measured as 0.81, and Spearman-Brown Prophecy (0.90) indicating reliability and internal consist of the research instrument (Trochim 1993). The reliability statistics for study variables presented in Table 1.

Table 1. Reliability statistics of study variables

Variable (non-gamified environment)	No of Items	Statistic		
		Cronbach's Alpha	Split-Half (odd even correlation)	Spearman-Brown Prophecy
Intrinsic Motivation	8	0.89	0.81	0.81
Extrinsic Motivation	8	0.9	0.90	0.95
Behavioral Change	9	0.87	0.78	0.87
Employee Engagement	8	0.86	0.79	0.89
Overall	33	0.85	0.81	0.90
Gamified environment				
Intrinsic Motivation	8	0.89	0.89	0.94
Extrinsic Motivation	8	0.85	0.78	0.88
Behavioral Change	9	0.84	0.81	0.89
Employee Engagement	8	0.87	0.81	0.89
Overall	33	0.89	0.94	0.97

Source: Primary data

3.1.1 Non-gamification environment

The research instrument was provided to all the 160 employees who participated in the study prior to gamification and employee responses were coded. The descriptive statistics for the study variable of pre and post-gamification are presented in Table 2.

Table 2: Descriptive statistics for study variables of non-gamified environment and gamified environment (N=160)

Non-gamified	Study Variable			
	Intrinsic Motivation	Extrinsic Motivation	Behavioural Change	Engagement
Statistic				
Mean	3.076	3.868	3.942	3.962
Standard deviation	0.592	0.654	0.611	0.622
Gamified				
Mean	3.818	3.843	3.967	3.960
Standard Deviation	0.580	0.429	0.567	0.624
Gender: Male 100; Female 60				
Source: Primary data				

3.2 Gamification – Authors Framework

Every organization can consider changing its service offerings; bringing the gamified approach. This means, they must establish a two-way approach to gauge both customers’ behaviours as well as its own service levels. Unless there is a holistic approach to any of the service offerings or product offerings, it is impossible to achieve and create a level-headed business environment. A proactive framework with a logical approach as to how to apply the framework in creating engaging, challenging, appealing, attracting and appealing experiences in their service or product either at the workplace, business or while using any of the same personally is the crux. For example, Ola cabs and Uber cabs follow an engaged rating system both for customers and driver-partners.



Figure 3: Thematically represented framework of new-age gamification (Prasad and Rao, 2020)

This back end algorithm works on many gaming dynamics such as behaviors, cleanliness, ambience, communication, frequency use of service, distance, timings, and more. Of course, this mutual rating system (what we call a 360-degree approach earlier) enables both parties to be vigilant and under tenterhooks of the other party while using the service thereby ensures mutual accountability. Deploying these gaming dynamics yield better results leading to a great performance achievement for the reason of complete involvement in the system. A thematically represented framework of the new-age gamification for the organizations for enhancing their employee engagement and efficiency presented in (Figure 3). The full description of the framework is out of the scope of this empirical study.

3.2.1 Define the objectives

- Reinvent employee engagement, enhance engagement and quality of work moving away from the mundane routine operational activities to an environment that fuel motivation. This is essential as the present systems are not aligned with the outcomes of the organization, is slow and expensive.
- The new operation system should be forward focused and outcome driven and enhanced employee’s satisfaction with feedforward mechanism

- The new system will create an inventory of skillsets and people can be moved across the functional areas with minimal disturbance.

3.2.2 Portray target behaviors

- Behavioral change component of gamification is vital and toughest part and behavior of the employees need to be changed step by step
- Team building and games in non-game contexts
- Leader Roles and Rewards

3.2.3 Determine activity cycles

- The activity cycles are defined and there should be start and clear end to an activity
- Engagement loops are needed to develop an interest do and develop and learn new things in the pursuit of professional perfection. Move the team members across the functional groups for job rotation to create more interest and motivation

3.2.4 Fun is important

During team building events create groups and planned games professional gaming specialists to carry out in non-gaming contexts. The games should have challenges, puzzles and filled with fun.

3.3 Gamification Application (Gamified Environment)

The application of gamification is expensive, the authors restricted and applied gamification techniques on small group of 160 employees to see how this will work enhancing employee engagement. The following gamification techniques were used as indicated in the Figure 2, to achieve enhanced engagement and enhanced efficiency.

- a) Team Building/Leader Roles
- b) Motivation (Intrinsic and extrinsic)
- c) Behavioral Change
- d) Game elements (points, rewards)

Prior to gamification, a small questionnaire was circulated to the employees to know the area of interest irrespective of their working in department, and this was done based on the procedure suggested by Prasad et al., (2019). This is essential as the staff who has assigned the interested work will be highly motivated and engaged. Based on responses the teams were formed based on their functional preferences and a total of 4 functional groups were formed (Figure 2).

Team building and Leader Roles: Team-building exercise for three days carried out outside the office campus in a nearby Film city. The team building exercise has certain games, quiz, and trivia. The employee who scored first in the functional group given role of the leader for the group, and who ranked second as Deputy leader of the functional group.

Motivation: Motivation is an important aspect of the gamification (Nicholson, 2012) and the human behavior is driven by the motivation (Xu, 2011). The intrinsic motivation, an internal desire to perform certain activities out of own interest and love, whereas extrinsic motivation performing certain tasks as employee need to that activity, likes or not (Ryan and Deci, 2000). To motivate the staff intrinsically the groups were asked to perform certain tasks with minimal labor as compared to pre-gamification arena. The groups were informed about the rewards points based on the savings to the organization in labor costs. The main focus here is to improve the quality of work and enhance employee engagement as the employees who are skilled are performing the teaks instead of labor. Another motivation exercise at-

tempted was, regularly posting a picture with a theme related to the work at the end of stair case, and the employees need to identify the work theme of the picture. The employees were informed who ever will use the staircase instead of elevator are permitted to participate in this competition, and to rewarded with points at the end of the day. Likewise, the employees group weight measured and informed the employees whichever the group reduced their group weight will be rewarded appropriately. The results was drastic reduction in vehicle usage for short-distances, and group transport was used rather than individual vehicles for official use. The employees are also started using bicycles for short-distances on official business. Here the ideas at that point of time is to motivate the employees and change the behavior to adapt employees to this changes. This will create a habit in the employees, for any changes in the future.

Behavioral change: Behavioral change is the toughest part of gamification need to be done step by step. Behavior is influenced by culture, motivation, and social influences (Hsu and Lu, 2004). The aspect of goal setting used to change the employee behavior where each group has given certain time to complete certain tasks. This created motivation and higher employee engagement. This worked well and the procedure continued to repeat certain types of tasks and gaming elements in non-gaming contexts until certain new habits are formed. And often certain exercises with ne elements were continued to keep it fresh as the behavioral change is not onetime event (like quitting smoking).

Points and rewards: The points and rewards are used to disengage and reduce the labor who are unskilled. The groups were asked to performance the mundane and routine activities which labor carries out like weight lifting, mail delivery, etc. without or with minimal labor so the costs saved will be rewarded to the groups based on points and rewards that can be redeemed. The functional group who ever used minimal labor rewarded and change the behavior also and reduction in use of labor. All the said techniques were applied repeatedly to the employees retain the modified behavior in the work culture. The respondents from the both gamified and non-gamified environment analyzed the and the results presented in the following section.

4. RESULTS

The multiple regression analysis was run separately to predict employee engagement for the data received from the respondents for non-gamified and gamified environments to explore the association between one dependent variable, employee engagement and three independent variables intrinsic motivation, extrinsic motivation and behavioral change (Pallant, 2005), and how much variance explained dependent variable, explained by independent variables. The model summary for both the non-gamified and gamified environment presented in Table 3. All the assumptions required to run multiple regression model was met. The linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. The Durbin-Watson Statistic >1.0 indicate the independence of residuals. The plot of studentized residuals inspected and visualized for homoscedasticity. The tolerance values re greater than 0.1 as indicated in the tables and this confirms that the absence of multicollinearity. There were no studentized deleted residuals > ±3 standard deviations, no leverage values > than 0.2, and values for Cook's distance above 1. The Q-Q Plots indicate the assumption of normality was met.

Table 3. Model Summary of non-gamified and gamified environments

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
Non-Gamified	.199	0.040	0.021	0.59640	1.928
Gamified	.978	0.957	0.956	0.11872	1.658
Predictors: (Constant), Intrinsic Motivation, Extrinsic Motivation, Behavioural Change					
Dependent Variable: Employee Engagement					

The value of R square, (regression coefficient) is 0.040 indicating 4% of variance in employee engagement in addition of three independent variables intrinsic motivation, extrinsic motivation and behavioral change in non-gamified environment. In the similar way a 95.7% variance by adding three same independent variables in a gamified environment.

Table 4. Analysis of Variance for both non-gamified and gamified environments

Model		Sum of Squares	df	Mean Square	F	Sig.
Non-Gamified	Regression	2.289	3	0.763	2.145	.097 ^b
	Residual	55.488	156	0.356		
	Total	57.777	159			
Gamified	Regression	48.882	3	16.294	1156.100	.000 ^b
	Residual	2.199	156	0.014		

a. Dependent Variable: Employee Engagement
b. Predictors: (Constant): Intrinsic Motivation, Extrinsic Motivation, Behavioral Change

The results of ANOVA Table 4, for non-gamified environment indicate there is no significant relationship between intrinsic motivation, extrinsic motivation, behavioral change and dependent variable employee engagement. The three independent variable not the good predictors of employee engagement under non-gamified environment $F(3, 156) = 2.145, p > 0.5$ adj. $R^2 = 0.021$.

The results of ANOVA table for gamified environment indicate there is a significant relationship between intrinsic motivation, extrinsic motivation, behavioral change and dependent variable employee engagement. At this stage, the three independent variable are good predictors of employee engagement under gamified environment $F(3, 156) = 1156.10, p < 0.0005$ adj. $R^2 = 0.956$.

The multiple regression analysis coefficients (Table 5) for non-gamified environment indicate that the independent variable, behavior change is statistically significantly predicted the employee engagement. However, in overall the other indicating two independent variable are not good predictors of the employee engagement in non-gamified environment. For gamified environment the independent variables intrinsic motivation and behavioral change are statistically significantly influencing the employee engagement. In general, extrinsic motivation is not a good predictor of employee engagement and the gains will be short-term. By examining the standardized beta value (β) it can be observed that under gamified environment the value is 0.948 at significant level $p < 0.0005$ indicate the behavioral change component of gamification is significant and making strongest contribution in explaining employee engagement. Considering the Beta value of 0.948 for one standard deviation change in independent variable Behavioral change results 0.948 standard deviations employee engagement enhanced. Similarly, one standard deviation changes in independent variable intrinsic motivation 0.134 standard deviations of employee engagement enhanced. The multiple regression model for gamified environment significantly predicted employee engagement $F(3, 156) = 1156.100, p < 0.0005$, adj. $R^2 = 0.957$ (Pallant, 2005).

Table 5: Multiple regression coefficients for employee engagement

Model	Engagement	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
Non-Gamified	(Constant)	3.515	0.482		7.295	0.000	2.563	4.466		
	Intrinsic Motivation	0.048	0.080	0.047	0.602	0.548	-0.110	0.207	0.991	1.009
	Extrinsic Motivation	-0.090	0.073	-0.098	-1.239	0.217	-0.233	0.053	0.994	1.006
	Behavioral Change	0.158	0.076	0.163	2.076	0.040	0.008	0.309	0.996	1.004
Gamified	(Constant)	0.190	0.114		1.667	0.098	-0.035	0.416		
	Intrinsic Motivation	0.131	0.016	0.134	7.923	0.000	0.098	0.163	0.967	1.034
	Extrinsic Motivation	-0.034	0.022	-0.025	-1.526	0.129	-0.077	0.010	0.991	1.009
	Behavioral Change	0.860	0.015	0.948	56.318	0.000	0.830	0.890	0.974	1.026

The two independent variables intrinsic motivation and behavioural change are statistically significantly contributing the model and predicting employment engagement. Therefore, he hypothesises:

H_{a1}: There is a significance relationship with between intrinsic motivation and employee engagement in non-gamified environment,

H_{a2}: There is a significance relationship with between extrinsic motivation and employee engagement in non-gamified environment *are rejected* and

H_{a3}: There is a significance relationship with between behavioural change and employee engagement in non-gamified environment hypothesis under non-gamified environment is *accepted*.

For gamified environment the hypothesis

H_{a4}: There is a significance relationship with between intrinsic motivation and employee engagement in gamified environment *accepted*, the hypothesis

H_{a5}: There is a significance relationship with between extrinsic motivation and employee engagement in gamified environment *is rejected*, and the hypothesis

H_{a6}: There is a significance relationship with between behavioral change and employee engagement in gamified environment *is accepted*.

5. DISCUSSION

The gamification involves more psychological aspects rather than techniques, and motivation and behavior change are the main factors for the success of gamification. The employee behavior also dependent on his/her performance. If the employee behaves positively towards the work, he/she will have less stress and increased performance. It is the role of the peer to assign and plan works to the team member in such a way that member is intrinsically motivated to carry out the assigned. work with love, passion and interest. Sometimes extrinsic motivation though which has short-term effect will be useful to keep and have a lasting effect. The peer should understand the team members behavior, and how they will be motivated. Identifying the group and motivators and planning work assignment with minimal game elements in non-game context is the aim of perfect gamification.

We have estimated the employee engagement under non-gamified and gamified environment where under gamified environment motivation and behavioural change levels of the employees increased significantly (Cereasoli et. al.,2014). Under gamified environment employees engagement is statistically significant and the results are in line with the students (Hammedi et al. 2017; Robinsion et al., 2016; Narayanan, 2014). There were no significant gender, age and functional level difference observed in both the gamified and non-gamified environment. Most of our results are in line with a study carried out by Prasad et al., 2019.

CONCLUSIONS

Central Message of this research and article and usefulness: This article assumes significance due to its novelty the way it engages the employees with fun added to any task or activity. The employees do not feel bored or monotonous while discharging their duties at the workplace. This boosts morale as they see one employee is forwarding with the idea and the others follow the suit.

Real-world implications to the business today: The application of the gamified approach is well received amongst the employees, business partners, vendors, etc. This approach can be deployed for any business that an organization is into provided we identify the mechanics and the criticality of the tasks or activity. Once we identify appropriately, we can add fun elements to it to motivate the employees. It works well with Ola, Uber, and even smaller communities such as Gated Community Apartments, wherein they encourage using staircases that embedded with musical notes such that if any children use the staircase, it produces music in tune with their steps on the staircase. It drastically reduces the usage of the elevator and thereby saves, electricity, increases health, and motivates the zeal of the residents.

Audience and why a busy manager should read: This gamification and the mechanics usually attract any leader, employee, independent consultant, HR leaders, team leaders, and the senior management team who want to boost morale and create fun amongst the team to get together. One cannot get understand if it reads, but to put in a little bit of effort to implement it and visualize the process, and then one could realize how important it is for the working environment.

Research conducted to support the argument and logic: A research both primary and secondary data collection have been done for this approach within our company, and we collated it with the secondary data and observed their applications and the results that they achieved. Our organization deployed this and encouraged the team to attend the workplaces by walk if the distance is within 3 kilometers or so, thereby we encouraged walking habit amongst the team and we have allotted some loyalty points to those whose groups reduce their group weight over a period of time. It created fun and healthy atmosphere amongst the people who are involved in this. We also suggested the management to use gamification as continuous and evolving processing rather than one-time approach to reap the long-term benefits.

Academic, professional, personal expertise to make the argument convincing: As explained above, this approach is highly recommendable to reduce the stress levels amongst the working professionals, be it IT industry, eCommerce industry, Banking and Finance, Retail or Pharma, and especially the front-line soldiers like a team – Doctors, Municipal staff, pharma during Covid-19, Teachers who deal with the Millennials, etc. The authors draw the authority out of their real-time experience that they have been into while implementing the same within their organization and by observing the same through secondary source of data.

REFERENCES

- Duncan, C. (2019), "Gamification For Employee Engagement: 18 Tactics For 2020", available at: <https://www.alert-software.com/blog/gamification-for-employee-engagement#:~:text=Gamification%20is%20a%20process%20where,actively%20engaged%20in%20the%20workplace.> (accessed 8 August 2020)
- Cerasoli, C.P., Nicklin, J. M., Ford, M.T. (2014), "Intrinsic motivation and extrinsic incentives jointly predict performance: A 40-year meta-analysis", *Psychological Bulletin*, Vol. 140, No. 4, pp. 980.
- Cronbach, L. (1951), "Coefficient alpha and the internal structure of tests", *Psychometrika*, Vol. 16 No 3, pp. 247-334.
- Donato, P., Link, M.W. (2013), "The gamification of marketing research", *Marketing News*, Vol. 47 No. 2, pp. 38-42.
- Filza Navid (2020), "3 ways to boost employee engagement with gamification", <https://blog.jostle.me/blog/3-ways-to-boost-employee-engagement-with-gamification> (accessed on 8 August 2020).
- Fischer, T.C. (2017), "Gamification and affordances: How do new affordances lead to gamification in a business intelligence system?", European Conference on Software Process Improvement, Springer, Cham, pp-310-320.
- Fitz-Walter, Z., Tjondronegoro, D., Wyeth, P. (2011), "Orientation passport: using gamification to engage university students", *Proceedings of the 23rd Australian computer-human interaction conference*, pp. 122-125.
- Gupta, A., Gomathi, S. (2017), "A review on gamification and its potential to motivate and engage employees and customers: Employee engagement through gamification", *International Journal of Sociotechnology and Knowledge Development*, Vol. 9 No. 1, pp. 42-52.
- Hammedi, W., Leclercq, T., Van Riel, A.C. (2017), "The use of gamification mechanics to increase employee and user engagement in participative healthcare services", *Journal of Service Management*, 28, No. 1, pp 640-661.
- Hsu, C.L., Lu, H.P. (2004), "Why do people play on-line games? An extended TAM with social influences and flow experience", *Information & Management*, Vol. 41, No. 7, pp. 853-868.
- Huotari, K., Hamari, J. (2017). "A definition for gamification: anchoring gamification in the service marketing literature", *Electronic Markets*, Vol. 27, No. 1, pp. 21-31.

- Kapp, K.M. (2013), *The Gamification of Learning and Instruction Fieldbook: Ideas Into Practice*, John Wiley & Sons, USA.
- Khan, W., Iqbal, Y. (2013), *An investigation of the relationship between work motivation (intrinsic & extrinsic) and employee engagement: a study on Allied Bank of Pakistan*, Master Thesis, Umea School of Business, Umea University, pp. 100.
- Kumar, H., Raghavendran, S. (2015), "Gamification, the finer art: fostering creativity and employee engagement", *Journal of Business Strategy*, Vol. 36, No. 6, pp. 3-12.
- Narayanan, A. (2014), *Gamification for Employee Engagement*, Packt Publishing Ltd. Birmingham, UK.
- Ong, M. (2013), *Gamification and its effect on employee engagement and performance in a perceptual diagnosis task*, Master Thesis, University of Canterbury, England, UK.
- Pallant, J. (2005), *Multiple regression. SPSS–Survival manual. SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS for Windows Version 15*, Open University Press, Buckingham, Philadelphia.
- Pelling, N. (2011), *The (Short) Prehistory of Gamification, Funding Startups (& other impossibilities)* Available at: <https://nanodome.wordpress.com/2011/08/09/the-shortprehistory-of-gamification/> [Accessed August 16, 2020].
- Prasad, K.D.V., Rao, M., Vaidya, R. (2019), "Gamification and Resource Pooling for Improving Operational Efficiency and Effective Management of Human Resources: A Case Study with an Ecommerce Company", *International Journal of Management*, Vol. 10, No. 6, pp. 1-10.
- Prasad, K.D.V., Vaidya, R.W. Mangipudi, M.R. (2020), "Perceived psychological wellbeing of an academician in higher education is a function of organizational support, supervisor support, family support and social support during Covid-19 Pandemic", *International Journal of Management*, Vol. 11, No. 6, pp.1291-1305.
- Raftopoulos, M. (2014), "Towards gamification transparency: A conceptual framework for the development of responsible gamified enterprise systems", *Journal of Gaming & Virtual Worlds*, Vol. 6, No. 2, pp. 159-178.
- Rich, B.L., Lepine, J.A., & Crawford, E.R. (2010), "Job engagement: Antecedents and effects on job performance", *Academy of Management Journal*, Vol. 53, No. 3, pp. 617-635.
- Robson, K., Plangger, K., Kietzmann, J.H., McCarthy, I., Pitt, L. (2016), "Game on: Engaging customers and employees through gamification", *Business Horizons*, Vol. 59. No. 1, pp. 29-36.
- Ryan, R.M., Deci, E.L. (2000), "Intrinsic and extrinsic motivations: Classic definitions and new directions", *Contemporary Educational Psychology*, Vol. 25, No. 2, pp. 54-67.
- Schaufeli, W.B., Bakker, A. B., Salanova, M. (2006), "The measurement of work engagement with a short questionnaire: A cross-national study", *Educational and Psychological Measurement*, Vol. 66, No. 4, pp 701-716.
- Trochim, W. (1993), "The reliability of concept mapping", annual conference of the American Evaluation Association, Vol. 6.
- Werbach, K. (2013), *For the win Gamification*, Introductory Video to Online Course. Wharton University, USA
- Xu, Y. (2011), "Literature review on web application gamification and analytics", Collaborative Software Development Lab Department of Information and Computer Sciences University of Hawai'i Honolulu, HI yxu@hawaii.edu CSDL Technical Report 11-05 (accessed on 12 August 2020) <http://csdl.ics.hawaii.edu/techreports/11-05/11-05.pdf>