

Print ISSN: 2288-4637 / Online ISSN 2288-4645
doi:10.13106/jafeb.2022.vol9.no5.0213

The Effect of Gamification on Employee Behavior: The Mediating Effects of Culture and Engagement

Ibrahim HAMZA¹, Tóvölgyi SAROLTA², Khodor SHATILA³

Received: January 20, 2022 Revised: April 10, 2022 Accepted: April 25, 2022

Abstract

In recent years, gamification has been a hot issue due to its positive impact on organizational success. The proper application of game elements in an organizational context is required for gamification implementations. Gamification remains an area of active research for its behavior molding potential. Employee engagement is a critical component in assessing employee behavior and is considered crucial for organizational success. Research questionnaires were completed online between March 2021 and February 2022. Our targeted sample encompassed low and mid-level personnel of Asian and Middle eastern employees working in Hungary. The questionnaire was introduced using google forms. Our sample size consisted of 203 respondents (N = 203). Research results indicated gamification's significance in increasing employees' intrinsic motivation and therefore boosting organizational engagement levels. Gamification improved employees' task performance and the overall quality of work. Organizational culture had a mediating role between gamification and employees' behavior. Organizational culture and employee behavior are in close correlation. Research findings also proved engagements' mediating effect on employees' behavior. The results of the research showed that gamification in human resources has risen in popularity, especially in terms of its impact on employee behavior and performance. The study's findings demonstrated that gamification has a positive impact on organizational performance and collaboration.

Keywords: Gamification, Culture, Engagement, and Employee Behavior

JEL Classification Code: O15, O31, J53

1. Introduction

Gamification has previously been demonstrated to be very effective at engaging when implemented correctly. It is thus promising for firms wanting to maximize their company. If utilized effectively, gamification may provide a good and

meaningful experience for workers while engaging with workplace technology (Ferreira et al., 2017). Engagement is viewed as vital to employee behavior, since it has been demonstrated to have a good influence in numerous cases, one of which is task performance. In turn, this may minimize the chance of failures coming from a lack of participation (Robson et al., 2016). However, the topic of gamification has various obstacles since it is relatively young and hence lacks best practices.

Competitive advantage is becoming more dependent on how well a firm manages its workforce. It is suggested that managers of these firms must recognize a new framework for satisfying consumers and producing value, centered upon developing pleased, loyal, and productive people who then generate profitability. Building high-performing businesses require more than just employee satisfaction; individuals must be motivated to do their best work. Employees that are emotionally invested in their work, their company, and its aims are more than merely content with their jobs. As an added value, companies that are able to keep their employees engaged have an edge over the competition that is tough to

¹First Author. Ph.D. Candidate, Department of Ergonomics and Psychology, Faculty of Economic and Social Sciences, Budapest University of Technology and Economics, Hungary. [Postal Address: Budapest, Műegyetem rkp. 3, 1111, Hungary] Email: hamza.ibrahim@gtk.bme.hu

²Assistant Professor, Department of Ergonomics and Psychology, Faculty of Economic and Social Sciences, Budapest University of Technology and Economics, Hungary. Email: tovolgyi.sarolta@gtk.bme.hu

³Corresponding Author. Academic Researcher, IProcares International Research Center, Lebanon. [Postal Address: Beirut, Lebanon] Email: info1@iprocares.com

© Copyright: The Author(s)

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<https://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

duplicate. In light of this, it is worthwhile to study further the issue of employee engagement in the workplace.

When it comes to engaging employees, games have a unique power that few other mediums have. The fact that games may motivate people is a critical component of this model. There are a wide variety of reasons why individuals devote so much time and energy to video games, but many of them are rooted in the same social and psychological factors that influence everyday actions. Competitiveness and socializing are two examples of social drive, whereas personal reasons like absorption and discovery are referred to as personal motivation.

Research has shown that engaged workers perform better at their professions and are less likely to quit the company than those who are disengaged at work. At the same time, data suggests that a significant percentage of the world's workforce is either marginally or entirely unengaged. There is a need for support measures to help firms attain high levels of employee engagement. The goal of this research is to investigate the impact of gamification on employees' behavior by studying the mediating effect of culture and engagement on this relationship.

2. Literature Review and Hypotheses

2.1. Theory of Flow and Gamification

Intrinsically driven individuals who participate in an activity for its own sake are said to be experiencing “flow,” according to (Ferreira et al., 2017). Flow is defined by Silic and Back (2017) as being entirely absorbed in an activity for the purpose of the action itself. As an example, a person who participates in a leisure activity such as mountain climbing does not aim to reach the summit; rather, he or she sets out to climb to experience it according to Utami et al. (2021). For Flow to occur, games must give players the appropriate feedback and clear objectives, which are pre-conditions for Flow. In addition, games have the capacity to add or alter levels, allowing players to balance their abilities and difficulties in a way that is appropriate for the game. To achieve Flow, one must strike a balance between increasing one's abilities as a result of training and increasing the novelty of the work at hand (Silic & Back, 2017).

Gamification, on the other hand, may be used in a far larger range of contexts nowadays. Also backed by the flow theory, which claims that Flow can be achieved in any domain, which means that it can be used for any product or service. Workplace engagement may be improved via employee motivation and job satisfaction, which is what we mean when we talk about “gamification,” which is described as the application of game design features such as challenges, levels, points, and leaderboards to the organizational setting. Ultimately, the gamified activities should have an influence

on the user's behavior, in which achieving the Flow experience is the goal (Tennakoon & Wanninayake, 2020).

There are two ways to achieve this goal: intrinsic or extrinsic. In contrast to extrinsic motivation, which is derived from sources outside the individual, the intrinsic drive is rooted inside the work at hand such as financial rewards. To activate Flow, it may be necessary to include certain extrinsic rewards, even though the long-term consequences may be detrimental. With the use of incentives like badges, gamification is able to provide both an internal and extrinsic component, such as gaining social recognition (Miciuła & Miluniec, 2019).

2.2. Kahn's Theory of Engagement

When a person's preferred self is employed in tasks that foster connections to work and people, personal presence (physical, cognitive and emotional), active and complete performances, they are engaging (Krath, 2021). Thus, an engaged employee is one whose work performance calls for them to be totally present, fully there, alert, and focused while also experiencing a sense of connection and integration, according to Thanh and Toan (2018).

By bringing their whole selves into the workplace, workers are more open to themselves and others, as well as more engaged in their job and the people around them, as stated by (Mohammed, 2019). When it comes to motivation, bringing personal resources to performance and how intensively and consistently a performer uses those resources are all part of Kahn's engagement notion. Effort, participation, flow, awareness, and intrinsic drive, according to Kahn, are just a few of the factors that contribute to a person's level of engagement according to Al-Haraisa and Al-Haraizah (2021).

As a whole, gamification engagement is characterized by high levels of self-motivation that are achieved through a combination of vigor, dedication, and absorption, which leads to a state of Flow, which is characterized by focused attention, clear mind and mind and body unison, effortless concentration and complete control. Gamification has garnered a lot of attention from studies, but it's still unclear how it might affect employee engagement and motivation at work (Hosseini et al., 2021).

2.3. Impact of Gamification on Employee Behavior

To help all social actors, especially small and medium-sized businesses (SMEs), make the transition to sustainability, the importance of individuals' ecologically friendly conduct has been highlighted. Even though gamification has been demonstrated to be a successful method of motivating individuals and driving behavioral change, its use in the context of pro-environmental workplace behavior has

only just begun (Basit et al., 2021). Outside of the gaming environment, games have been effectively used for a range of applications, including education, training, and performance.

The mediating effect of gamification on pre-existing relationships, on the other hand, has received little attention. As a result, the purpose of the research was to see if gamification impacted the relationship between workplace stress and employee performance. In a field study of 310 non-managerial staff of Sri Lankan commercial banks, a quantitative technique was used to gather the data. The results showed that gamification has a calming impact on job stress and the link between employee performance and performance at work (Tennakoon & Wanninayake, 2020). The findings of Fathian et al. (2020) imply that video games may be used to reduce the negative emotions' impact of on employees' performance. This leads to the validation of the following hypothesis:

H1: *There is a direct positive relationship between gamification and employee behavior.*

2.4. The Mediating Effect of Engagement

Because of the increased pressure on companies to do better than their competitors, employee engagement has become a common feature in many professions. In addition, new patterns of work-life balance complicate meeting the needs of both employees and employers. Most firms see job engagement as an essential aspect since it has a significant influence on employee performance and directly affects the company's success (Ferreira et al., 2017; Robson et al., 2016). During the absence of engagement, the employee's work challenge and performance are restricted; nevertheless, when the employee's level of engagement rises, their job performance improves. Employee engagement is a constant, and it may be enhanced by firms improving working conditions and rewards.

Gamification has previously been shown to have a positive impact on people's motivation to engage in unappealing tasks. Despite this, no research has been done to test it as a method of controlling unwanted connections at work. The ultimate goal in the realm of words is to perform well. To improve performance, it is necessary to regulate and nurture the elements that have a negative impact on performance. In many cases, the relationship between employee involvement and behavior has already been generalized to be favorable. Accordingly, the current research used the notion of gamification as a mediator between employee engagement and their behavior (Ferreira et al., 2017; Mohammed, 2019).

Engaging in an event from a psychological standpoint encompasses an individual's participation, energy, and effectiveness in that experience. As a result, workers who are actively involved in their work are more energized

and enthusiastic in their efforts. Employee engagement is a combination of the employee's mental, emotional, and behavioral energy that has a positive impact on the business.

It's possible to engage workers on all three levels: their minds, their emotions, and their souls. Three aspects of employee involvement in the workplace must be taken into consideration when discussing engagement: intellectual, emotional, and social. Intellectual engagement is the degree to which people are drawn to their jobs and actively seek out methods to better their performance in those roles. When workers are emotionally engaged, they are more likely to be satisfied with their job and their employer. Employees' level of social engagement may be measured by the amount of conversation they have with their coworkers on how to improve their work environment (Basit et al., 2021; Hosseini et al., 2021).

On the other hand, low morale among employees may manifest physically in the form of fatigue and tension, a lack of self-confidence, and even childish actions like tantrums and pouting. Employee productivity and performance may be improved by increasing employee engagement. This interpretation has been backed up by several investigations. Furthermore, the financial and non-financial results of employees' work are closely linked to an organization's overall success, which in turn has a direct impact on employee satisfaction and productivity. Several studies show that a company's financial and non-financial performance increases when its employees are engaged.

The goal of this study is to assess the influence of gamification on employee engagement and productivity among Asian and Middle eastern employees working in Hungary. As well as investigating how employee involvement affects the link between gamification and productivity. Finally, to see whether gamification might moderate the link between employee motivation and output. Self-rated Likert-Range questionnaires were used to gather data, with a rating scale of 1 to 5, with 1 indicating strongly disagree, and 5 indicating strongly agree. Employees of multinationals in the IT sector were randomly selected to get a sample size of 220. The data was examined using AMOS 22's bootstrapping techniques under the guidance of confirmatory factor analysis and structural equation modeling (Fathian et al., 2020; Krath, 2021). The results reveal that in Asian and Middle eastern employees working in Hungary, gamification has no direct impact on employee performance. Employee engagement is boosted significantly through gamification.

Gamification also has a mediating influence on the link between employee engagement and performance, according to the study's findings. Human Resource Development may benefit from this research by implementing successful training programs that make use of gamification to raise employee morale and productivity (Miciuła & Miluniec, 2019;

Tennakoon & Wanninayake, 2020). It is possible to foster a highly competitive workplace culture among employees by using gamification techniques that are sensitive, innovative, and well-implemented inside the firm. This research illustrates that gamification's ability to improve employee performance depends critically on their participation. This leads to the validating of the following hypothesis:

H2: *Engagement mediates the relationship between gamification and employee behavior.*

2.5. The Mediating Effect of Culture

Organizational culture is one of the most researched psychological factors in determining the performance of workers. Organizational culture and employee behavior have been examined extensively by academic researchers. It has been shown that factors such as corporate culture, the size of the company, and the nature of the task at hand may have a significant impact on job performance. It is possible to use corporate culture as a mediator between gamification and employee behavior, according to this indicator and result connection (Ferreira et al., 2017; Tennakoon & Wanninayake, 2020). Even though there is theoretical consensus on the mediatory role of organizational culture, many studies have sought to investigate the actuality of this function, specifically multidimensional construction.

There was a correlation between gamification and employee behavior in literature, and this study found that the culture of the company acted as a mediating factor in the link between gamification and employee behavior (Miciuła & Miluniec, 2019).

H3: *Culture mediates the relationship between gamification and employee behavior.*

3. Methodology

3.1. Sample

Questionnaires were completed online between March 2021 and February 2022. The study's target group included low and mid-level employees from Asia and the Middle east working and studying in Hungary. The sample is convenient where we collected answers from students registered at Budapest University of Technology and Economics and employed by Hungarian and multinational companies in Hungary. For data collection, the surveys were distributed using Google Forms, emails, and social media. We applied a snowballing technique in which participants distributed the questionnaire to each other through emails and social media platforms. Our sample size consisted of 203 respondents ($N = 203$). Data were examined using SPSS and AMOS 22's

bootstrapping techniques under the guidance of confirmatory factor analysis and structural equation modeling. In the next part, there will be a discussion on the varied instruments that are used to measure the variables.

3.2. Instrument

A statement describing the study's aims and expressing respect for participants' right to privacy was presented at the beginning of the questionnaire. It is important to mention that the questionnaire is divided into five sections. The first part consists of six demographic questions, which include: sex, age, education, years of experience, the size of the company, and employees' job positions.

The second division of the questionnaire consists of six questions that measure gamification in an organizational context. The questionnaire is based on a 5-point Likert scale, where responses ranged between 1 (Strongly Disagree) and 5 (Strongly Agree). Questionnaire statements include: "Gamification Process tends to enhance employees' performance" and "I am able to learn faster when the gamification process is applied at work".

The third part of the questionnaire measures employees' engagement levels in the organization. Respondents rated their perception of engagement on a 5-point Likert scale, where responses ranged between 1 (Strongly Disagree) and 5 (Strongly Agree). The questionnaire here is adapted from the Utrecht work engagement scale (UWES) where 17 questions are utilized to measure organizational engagement. Examples of the statement questions used: "When I get up in the morning, I feel like going to work", "I can continue working for very long periods at a time". The scale is considered to be a popular and extensively validated measurement tool of engagement.

Participants are asked to define the role of culture in the fourth part of the survey. This section of the survey is being completed as part of a research project examining the impact of culture on the relationship between gamification and employee behavior. To better understand the organizational culture of our participants we applied the Organizational Culture Assessment Instrument (OCAI). The OCAI consists of 24 questions that are answered on a 5-point Likert scale, where responses ranged between 1 (Strongly Disagree) and 5 (Strongly Agree). Examples of culture statement questions are: "The management style in the organization is characterized by teamwork, consensus, and participation." and "The organization is a very controlled and structured place. Formal procedures generally govern what people do." The OCAI is a validated organizational culture measurement tool and is considered the dominant model in quantitative research investigating organizational culture.

The fifth part measures employees' behavior at work. The questionnaire used to measure employee behavior is the Individual Work Performance Questionnaire (IWPQ).

Table 1: Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	88	43.3	43.3	43.3
	Male	115	56.7	56.7	100
	Total	203	100.0	100.0	

Table 2: Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18–25	109	53.7	53.7	53.7
	26–35	77	37.9	37.9	91.6
	36–45	14	6.9	6.9	98.5
	46 and above	3	1.5	1.5	100.0
	Total	203	100.0	100.0	

Table 3: Job Position

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Administrative employee	20	9.9	9.9	9.9
	Department leader	7	3.4	3.4	13.3
	Manager	22	10.8	10.8	24.1
	Other	102	50.2	50.2	74.4
	Team leader	10	4.9	4.9	79.3
	Technical specialist (e.g., IT, human resources, finance)	42	20.7	20.7	100.0
	Total	203	100.0	100.0	

The IWPQ originally included 47 questions; however, to fulfill our study goal, we chose a shorter 25-item version that includes task performance, interpersonal performance, and counterproductive work behavior. The IWPQ is a validated measurement scale of organizational performance proven by previous literature. Items were graded on a 5-point Likert scale, with 1 representing (strongly Disagree) and 5 representing (strongly Agree). The questionnaire included question statements such as: “I kept in mind the results that I had to achieve in my work”, and “I was able to separate main issues from side issues at work”.

4. Results

4.1. Descriptive Statistics

Referring to Table 1 above, it can be noted that 88 of the respondents are females, and 115 of the respondents are males.

Preference to Table 2, it can be noted that 109 of the respondents fall in the age range of 18 and 25 years, 77 respondents fall in the age range of 26 and 35 years, and 14

respondents fall in the age range of 36 and 45 years and 3 respondents are 46 years and above.

Referring to Table 3, it can be noted that 20 employees are administrative employees, 7 respondents are holding the position of department leader, 22 respondents hold managerial positions, 102 respondents are holding other positions, 10 respondents are holding team leader positions, and 42 respondents hold technical specialists.

According to the statistics in Table 4, 102 respondents have bachelor’s degrees, 35 have a high school degree, 62 have master’s degrees, and 4 have PhDs.

According to Table 5, 68 respondents have less than one year of experience, 8 have between 11 and 15 years of experience, 7 have 16 years of experience, 31 have between 6 years and 10 years, and 89 have between 1 year and 5 years of experience.

4.2. Regression Analysis

Three regression analyses will be discussed in the next part to investigate the mediating effect of engagement

Table 4: Educational Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor’s degree graduate	102	51.3	51.3	49.8
	High school graduate	35	17.2	17.2	67.5
	Master’s degree graduate	62	30.5	30.5	98.0
	PhD graduate	4	2	2	100
	Total	203	100.0	100.0	

Table 5: Years of Employment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<a year	68	33.5	33.5	33.5
	11 years to 15 years	8	3.9	3.9	37.4
	16 years and above	7	3.4	3.4	40.9
	6 years to 10 years	31	15.3	15.3	56.2
	1 year to 5 years	89	43.8	43.8	100.0
	Total	203	100.0	100.0	

and culture on the relationship between gamification and employee behavior in an organizational setting. This part consists of three regression analyses:

4.2.1. Relationship between Gamification and Employee Behavior

According to Table 6, it can be noted that the variable “Gamification” scored a *P*-Value of (0.00) and a *T*-Test (3.592) which is the result of dividing *B*/Standard error and scored a Beta of 0.261. This means that there is a direct relationship between gamification and employee behavior and can lead us to the validation of our first research hypothesis.

Thus, the following equation can be deduced:

$$Y = A + BX_1$$

where *Y* represents the dependent variable which is employee behavior, *A* represents the constant, *B* represents the Beta Coefficient and *X* represents the independent variable, and by that, the following equation is deduced:

$$\text{Employee behavior} = 0.00 + 0.261 \text{ Gamification}$$

This means that, for every one-unit increase in gamification, employee behavior tends to increase positively by 26.1%. As for the *R*, it scored 26.1%, which means that Gamification represents 26.1% of the model and that 73.9% of the variables are not covered in this model.

4.2.2. Engagement Mediates the Relationship between Gamification and Employee Behavior

Referring to Table 7, it can be noted that the variable “Gamification” scored a *P* (0.00), *T* (10.069), and Beta (0.585), as for the variable engagement, it scored a *P* (0.001), *T* (3.484), and Beta (0.203) which means that there is a direct relationship between gamification, engagement, and employee behavior. Furthermore, the following equation can be concluded:

$$Y = A + BX_1 + BX_2$$

$$\text{Employee behavior} = 0.337 + 0.585 \text{ Gamification} + 0.203 \text{ Engagement}$$

This means that:

- For every one-unit increase in Gamification, employee behavior tends to increase by 58.5%
- For every one-unit increase in Engagement, employee behavior tends to increase by 20.3%

However, it can be noticed that the *R* in regression one was 26.1% and increased in regression two to reach 66.7%. This means that engagement mediated the relationship between gamification and employee behavior since the *R* had increased significantly from regression one to regression two. Based on the above findings, hypothesis two is accepted.

Table 6: Relationship Between Gamification and Employee Behavior

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	0.261 ^a	0.068	0.063	0.02881		
a. Predictors: (Constant), Gamification and employee behavior.						
Model	Unstandardized Coefficients			Standardized Coefficients	t	Sig.
	B	Std. Error	Beta			
1	(Constant)	0.060	0.008		7.606	0.000
	Gamification	0.360	0.100	0.261	3.592	0.000
a. Dependent Variable: Employee behavior.						

Table 7: Engagement Mediates the Relationship Between Gamification and Employee Behavior

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	0.667 ^a	0.446	0.439	0.02460		
a. Predictors: (Constant), Gamification, Engagement, and Employee behavior.						
Model	Unstandardized Coefficients			Standardized Coefficients	t	Sig.
	B	Std. Error	Beta			
1	(Constant)	0.007	0.008		0.964	0.337
	Gamification	0.646	0.064	0.585	10.069	0.000
	Engagement	0.308	0.089	0.203	3.484	0.001
a. Dependent Variable: Employee behavior.						

4.2.3. Culture Mediates the Relationship Between Gamification and Employee Behavior

According to the aforesaid regression, the variable “Gamification” received a *P* (0.00), *T* (10.111), and Beta (0.625), while the variable “Culture” received a *P* (0.001), *T* (2.6329), and Beta (0.403), indicating a direct association between gamification, culture, and employee behavior. In addition, the following equation may be concluded:

$$Y = A + BX_1 + BX_2$$

$$\text{Employee behavior} = 0.237 + 0.625 \text{ Gamification} + 0.403 \text{ Engagement}$$

This means that:

- For every one-unit increase in Gamification, employee behavior tends to increase by 62.5%.

- For every one-unit increase in Culture, employee behavior tends to increase by 40.3%.

It is, nonetheless, discernible that the *R* in regression one was 26.1% and increased in regression two to reach 69.7%. This means that culture mediated the relationship between gamification and employee behavior since the *R* had increased significantly from regression one to regression three. It can also be noted that the *R* in regression three (69.7%) is higher than the *R* in regression two (67.7%), which means the culture has a higher mediation effect than engagement on the relationship between gamification and employee behavior. Based on the above findings, hypothesis three is also validated.

4.3. Path Analysis

Path analysis (Figure 1) was conducted to study the relationship between gamification and employee behavior

Table 8: Culture Mediates the Relationship Between Gamification and Employee Behavior

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.697 ^a	0.466	0.459	0.02660

a. Predictors: (Constant), Gamification, Employee behavior, Culture.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.007	0.008		0.964	0.237
	Gamification	0.546	0.054	0.625	10.111	0.000
	Culture	0.208	0.079	0.403	2.6329	0.001

a. Dependent Variable: Employee behavior.

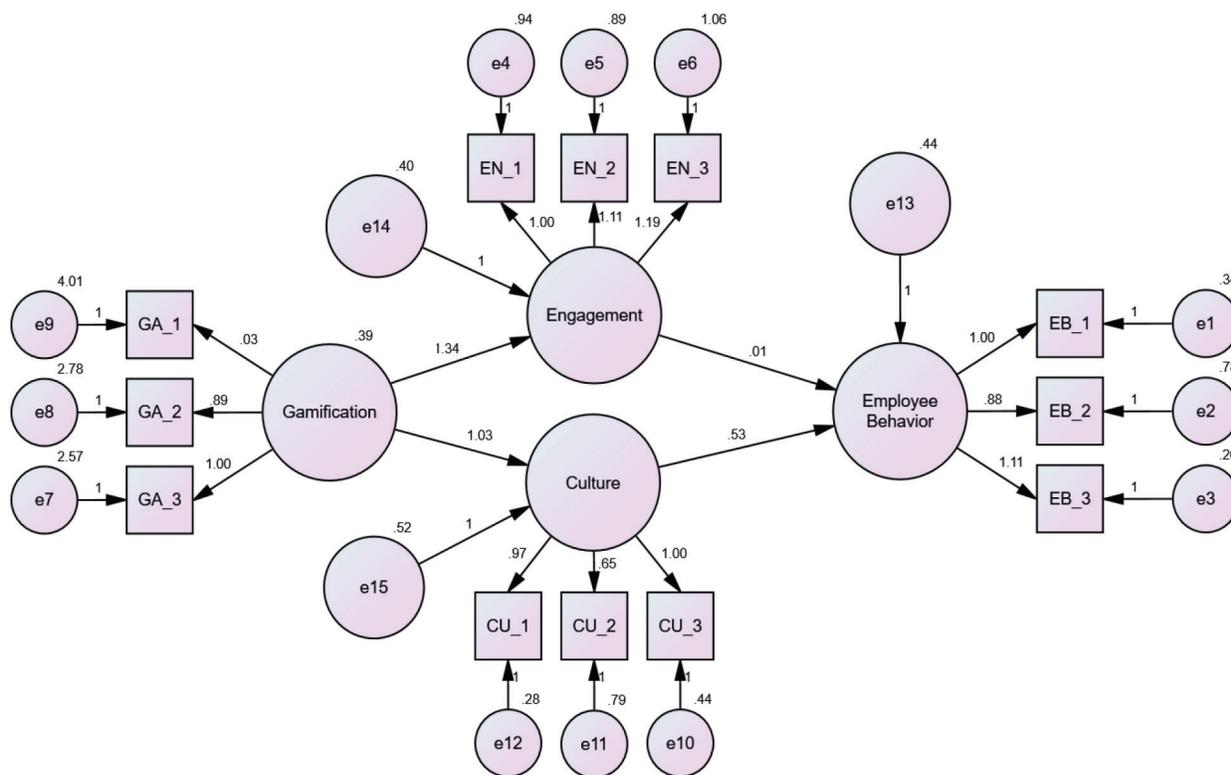


Figure 1: Path Analysis

and how engagement and culture mediate the relationship between gamification and employee behavior. After analyzing the results using AMOS, it can be noted that Gamification tends to impact engagement by 1.34 units and tends to impact culture by 1.03 units, and in turn engagement

impacts employee behavior by 0.01, and culture impacts employee behavior by 0.53 units. Thus, it can be concluded that both culture and engagement mediate the relationship between gamification and employee behavior. Still, culture tends to have a higher impact as a mediator than engagement.

5. Findings and Discussion

5.1. Main Findings

H1, H2, and H3 are the accepted hypotheses in this study based on the following data. Gamification has been shown to have a significant positive impact on employee behavior in the first hypothesis (H1). According to Ferreira et al. (2017), this conclusion holds up. Employees' behavior in the workplace may be improved by using gamification as a tool in the business since it contains an interactive aspect that results in their enthusiasm for the activity. To mention just a few of the fundamental tasks one might engage in when playing a game, one must confront new difficulties, solve problems, and develop strategies. Every game has a goal, and the success of the game depends heavily on the player's experience and determination to achieve it. These are the benefits of gamification in the workplace. They will be more involved in the work, and potentially with each other, as a result of this. In addition, this study's findings complement previous studies that showed gamification to be an effective tool for increasing staff morale and productivity (Ferreira et al., 2017; Robson et al., 2016).

5.1.1. Gamification and its Impact on Employee Behavior

When it comes to HR, gamification has become more popular and especially when discussing its impact on employee behavior and performance as well as its value. The research showed that gamification has gained traction as a way to foster relationships, foster innovation, and serve as a competitive edge by recruiting, retaining, and motivating employees. In addition, the inherent thrill of playing an employee's human nature is raising attention to gamification. Gamification has been widely used to increase employee commitment and productivity in a variety of industries. Workplace autonomy, adaptability, and learning opportunities may all be fostered via gamification strategies that appeal to a diverse group of employees across generations. Businesses have yet to fully embrace gamification, and top management is still more confident in employing conventional methods than encouraging staff to be creative and innovative via gamification. Game-based learning has been adopted in the workplace to boost employee productivity and job satisfaction.

5.1.2. Mediating Impact of Engagement on the Relationship between Gamification and Employee Behavior

Employee engagement has a complete mediating impact on the link between gamification and employee behavior, which supports hypothesis H2 of this research. Gamification

has been shown to have a direct impact on employee behavior. The employee must first be engaged with the system, and the material must be tied to their job performance for gamification to be successful. Incorporating gamification into a company's performance evaluation system is a smart move since it increases employee commitment and morale. Learning may benefit from gamification as well since gamification is all about fostering a more pleasant work environment where everyone can express their own talents and abilities.

The research findings showed that gamification has a beneficial impact on employee behavior when it is coupled with high levels of employee engagement. Additionally, it was pointed out that the gamified system's success depends on the correct feedback and rewards delivered to the employee at the right moment.

Findings showed that employee engagement has a significant impact on the relationship between gamification and employee behavior. To avoid wasting employee engagement, the content design must be connected with the goals of the business. Otherwise, it will merely lead to employee delight without any real advantages to their job responsibilities or the company's purpose. Only when gamification and employee engagement are successful in raising overall performance can they be considered worthwhile.

5.1.3. Mediating Impact of Culture on the Relationship between Gamification and Employee Behavior

It was shown that culture acts as a mediator in the relationship between gamification and employee behavior and by that Hypothesis three had been accepted. Culture plays an important mediating role in the link between gamification and employee behavior. Employee behavior improves when a company's culture does as well. Gamification settings, such as challenges, incentives, a leaderboard, and many more, have the power to raise motivation, which then establishes the path toward reaching the desired objective. A greater degree of culture also has a significant impact on productivity, creativity, and performance. Krath (2021) has shown that culture has a major impact on the link between employee engagement and behavior.

5.2. Discussion

The research found that gamification comes from games, game theory, and game design and that it is employed outside of a gaming environment. It is difficult to define exactly what it means to "gamify" anything, although academics largely agree on the concept. This is because the definition is potentially relatively imprecise or elastic. Many of the most pressing issues revolve around the fact that identifying

whether or not a system has been ‘gamified’ vs ‘gamified’ may be subjective. When making operations more “game-like,” the psychological components of gamification should be taken into account.

A learning theory may help managers remember that the goal of gamification is to encourage human motivation and performance in an activity, which results in an increase in the level of engagement. Internalized motivation is a key driver of high-quality engagement and has so far gotten a lot of attention.

An activity is intrinsically driven when it fulfills an inner goal such as pleasure, learning, or a sense of success, whereas an action is extrinsically motivated when benefits are supplied externally or avoiding a bad or unwanted result is the motivational driver. Gamification designers would first be motivated to concentrate their efforts on creating experiences that tap into intrinsic motivations as a result of this initial separation of motives. Although external motives cannot be changed into intrinsic motivations, they might be absorbed. Gaming designers find extrinsic incentive desirable because it increases perseverance, boosts positive self-image, and improves engagement quality. Motivations derived from the outside world have also been shown to improve performance quality.

As a result, to get the most out of gamification, it’s important to consider both internal and external factors. Misunderstanding the incentives that drive people may lead to undesirable outcomes. Employees who were subjected to an “electronic whip” as a consequence of a company’s decision to use leaderboards to encourage and reward them felt micromanaged. This is arguably a result of not properly understanding the target group and context in which gamification is applied.

Employees that work in groups perform better on jobs because they are more involved in the project’s overall process. In essence, a player type is a focus on an individual’s set of motives or actions. Therefore, appreciating the different player types helps to clarify how to apply the correct gamification elements in a given context, depending on the desired effect.

This study aims to encourage users to complete activities on time and to the highest standard feasible. Routine may lead to boredom in the workplace, which is a common problem for projects of all kinds. But gamification has been proved to boost user engagement, particularly in circumstances where there is a defined amount of daily regular labor for learning/training purposes. Gamification has been shown to have a positive influence on task performance, particularly when the quality persists or rises over a long length of time, developing better and more stable habits for regular work in task performance.

The success of an organization is entirely dependent on the quality of the procedures that are carried out by the

individuals involved in its lifetime. Specifically, gamification of regular chores in the organization may improve both on-time delivery and quality of work via the habitualization of routine labor. Work quality is assessed by employing controllers that determine whether a job has been completed and then provide an approval or disapproval grade based on the outcome. A percentage may be derived to reflect the quality of the delivery based on this data.

Gamification will result in higher quality work in task performance, and it will also result in higher quality work in subsequent deliveries over time. Meeting deadlines and delivering on time are equally important aspects of job performance.

5.3. Key Elements of Successful Gamification Process

As elaborated by Robson (2016) and emphasized in our research, gamification success depends largely on four elements.

Timing: A player’s understanding of the intended behavior might get clouded if they receive incentives too slowly, decreasing their likelihood of repeating it. Managers need to bear in mind that experienced players might be given more crucial responsibilities inside the business. Similar to the notion of shaping, in which complicated actions that are unlikely to occur by chance are progressively molded via rewarding smaller behaviors that mimic the desired activity.

New levels and challenges: Once the gamified experience is up and running, managers must keep in mind that the experience must be adjusted and transitioned to stay interesting to all player types and to continue meeting organizational objectives. Similar to games, a gamified environment must continually provide new experiences or activities to players if it is to encourage desired behavior change. Players that like a challenge will appreciate an increasing degree of difficulty as they move through the gamified experience. New characters or tasks must be introduced as the gamers advance if they value interaction. However, managers must be careful not to unjustly modify the rules as they adapt and transition to the gamified experience. Any sudden changes to the gamification mechanisms may cause a player to feel misled, leading them to abandon the experience altogether.

Managers role: Managers act as game regulators and their role will be crucial in ensuring that the gamified experience is monitored at all times. As a result, the manager’s responsibilities go far beyond the creation of an engaging gamified experience. Managers should keep an eye on their players to make sure they aren’t straying from the guidelines and nothing spoils the fun of a game like a cheating player, and managers should be wary of players cheating and look for instances of players who game a gamified experience by colluding or breaking the rule mechanics. Although this

may not have a negative influence on an organization's targeted behavior change, it might lead to the failure of the gamification effort to achieve that organization's aims. Even the most advanced analytics may miss signs of cheating by players or other undesirable dynamics or emotions, so managers must keep a close eye on the gamified experience to catch these things.

Gamification metrics: Without adequate measurements, a company cannot assess its success or improve on prior experiences. Thus, in the planning phases, designers need to define metrics and objectives that would signal success for a gamification approach, and they should embed them into the mechanics of the gamified experience. When designers incorporate these performance measures into the mechanics, they should be constructed in such a way that they are automatically measured as the players interact with the gamified experience. In this way, the company collects vital information that can be utilised to assess the performance of the gamification approach.

6. Conclusion

Because so many people are interested in the concept of “gamification,” there aren't many studies or popular literature out there on it. Our study on gamification has uncovered a number of promising new directions for academics and practitioners alike to pursue. Researchers have not yet examined the problem of consent to engage in gamified encounters. When engaging with clients, for example, consent is implied. The question of whether workers should be given explicit permission when creating gamified experiences must be considered. The study used gamification as a way to highlight how companies can better connect with a wide range of stakeholders. The majority of these people, both in and out of the workplace, are employees and consumers.

Game design concepts may be applied to non-game contexts, as shown in the examples above. Successful gamification relied on matching the mechanics, dynamics, and feelings associated with gamification to certain types of players. Failures in gamification, on the other hand, were related to a mismatch between these gamification principles and the participants in the gamified experience. It is our aim that this article will assist managers in their efforts to influence the behavior of employees in a broad variety of corporate contexts via gamification.

References

Al-Haraisa, Y. E., & Al-Haraizah, A. (2021). The impact of organizational climate on organizational reputation: The mediating role of organizational health: An empirical study from Jordan. *Journal of Asian Finance, Economics and*

- Business*, 8(10), 29–35. <https://doi.org/10.13106/JAFEB.2021.VOL8.NO10.0029>
- Basit, A., Hassan, Z., Omar, N., Sethu, S., Sethumadavan, S., & Jhanjhi, N. Z. (2021). Impact of service quality on customer satisfaction in Maldives tourism industry view project employee engagement view project gamification: A tool to enhance employee engagement and performance. *Turkish Online Journal of Qualitative Inquiry (TOJQI)*, 12(5), 26–39. <https://doi.org/10.12321/1023353345446>.
- Fathian, M., Sharifi, H., & Nasirzadeh, E. (2020). Conceptualizing the role of gamification in contemporary enterprises. *IEEE Access*, 8, 188–204. <https://doi.org/10.1109/ACCESS.2020.3043144>
- Ferreira, A. T., Araújo, A. M., Fernandes, S., & Miguel, I. C. (2017). Gamification in the workplace: A systematic literature review. *Advances in Intelligent Systems and Computing*, 571, 283–292. https://doi.org/10.1007/978-3-319-56541-5_29
- Hosseini, C., Humlung, O., Fagerstrøm, A., & Haddara, M. (2022). An experimental study on the effects of gamification on task performance. *Procedia Computer Science*, 196, 999–1006. <https://doi.org/10.1016/j.procs.2021.12.102>
- Krath, J. (2021). Gamification for sustainable employee behavior: Extended abstract for the CHI PLAY 2021 doctoral consortium. *CHI PLAY 2021—Extended abstracts of the 2021 annual symposium on computer-human interaction in play*, Austria, 18–21 October 2021 (pp. 411–414). New York: Association for Computing Machinery. <https://doi.org/10.1145/3450337.3483523>
- Miciuła, I., & Miluniec, A. (2019). Gamification 3.0 for employees' involvement in the company. *12th annual International Conference of Education, Research and Innovation (ICERI)*, Seville, Spain, 11–13 November 2019 (pp. 10878–10884). Valencia, Spain: IATED. <https://doi.org/10.21125/iceri.2019.2670>
- Mohammed, H. O. (2019). Relationship between participatory decision making and job satisfaction: A case study of private sector organizations in Kurdistan-LFU. *Russian Journal of Agricultural and Socio-Economic Sciences*, 90(6), 252–261. <https://doi.org/10.18551/rjoas.2019-06.31>
- Robson, K., Plangger, K., Kietzmann, J. H., McCarthy, I., & Pitt, L. (2016). Game on: Engaging customers and employees through gamification. *Business Horizons*, 59(1), 29–36. <https://doi.org/10.1016/j.bushor.2015.08.002>
- Silic, M., & Back, A. (2017). Impact of gamification on user's knowledge-sharing practices: Relationships between work motivation, performance expectancy, and work engagement. *Proceedings of the Annual Hawaii International Conference on System Sciences, Hilton Waikoloa Village, Hawaii, USA, January 4-7, 2017* (pp. 1308–1317). Manhattan: IEEE. <https://doi.org/10.24251/hicss.2017.156>
- Thanh, V. B., & Toan, N. V. (2018). The relationship between organizational justice and social loafing in Ho Chi Minh City, Vietnam. *Journal of Asian Finance, Economics, and Business*, 5(3), 179–183. <https://doi.org/10.13106/JAFEB.2018.VOL5.NO3.179>

- Tennakoon, W. D. N. S. M., & Wanninayake, W. M. S. M. (2020). Where play becomes effective: The moderating effect of Gamification on the relationship between work stress and employee performance. *Sri Lanka Journal of Economic Research*, 7(2), 63. <https://doi.org/10.4038/sljer.v7i2.115>
- Utami, N. M. S., Saptia, I. K. S., Verawati, Y., & Astakoni, I. M. P. (2021). Relationship between workplace spirituality, organizational commitment, and organizational citizenship behavior. *Journal of Asian Finance, Economics, and Business*, 8(1), 507–517. <https://doi.org/10.13106/JAFEB.2021.VOL8.NO1.507>