Impact of Games on the Performance and Engagement of Employees of the IT Industry

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ABSTRACT

The present study analyzes the impact of video games on productivity at a workplace. A lot of organizations have introduced games during break times of employees. Indoor video game parlors have been created at company sites. Games are said to relieve stress and enthuse fun at the workplace resulting in a happy environment. The authors were interested in understanding employees' feelings after playing these games and their views about these games. They have targeted employees of multinational IT companies asking them in detail about these gaming sessions and their opinions about them. Findings from the data indicate that employees feel more competent and enthusiastic towards their work after playing these online games. These results will definitely help the organizations in developing a strategy for incorporating these games during break-time of employees and leveraging the benefits of games to enhance employee performance and engagement at work.

KEYWORDS

Break, Company, Monotony, Video/Online Games, Work Performance

INTRODUCTION

Advent of internet in the 1980s and invention of personal computers gave rise to the huge industry of electronic entertainment. The first ever created computer game is Pong which was created in 1970s. This led to the popularity of online games and slowly these games found their way at workplaces too (Chikhani, 2015). The obvious reason being, employees like to have fun at workplace to remove their boredom. However, it is worth noting that the concept of employees playing online games during work hours was generally disliked by management, as it was perceived as a potential waste of valuable work time and a detriment to productivity.

There are many evidences to suggest that games stimulate thinking and help in development of social relations. Games keep mind active and attentive while helping people relax. CRM, sales and IT professionals particularly require this as they have to keep their mind active (helping calls) even

when they are not working (waiting for calls). Professions where the job is monotonous and boring like research, data processing can benefit a lot from introduction of gaming (Sonnentag, 2018).

Employees spend long hours (on an average 8.5 hours a day) at workplace. For some employees working in sectors like IT there is no boundary between work and life. There is no count of the time they spend in office. Work from home during COVID has still led to blurring of these boundaries. Use of mobiles, tablets and laptops further shrank the world. It has changed the way business was done. People carry their work along with them in the form of mobiles and laptops, making work seamless. Internet on mobiles allowed download of many applications. It also paved the way for online games. Continuous work without any break brings tiredness and therefore, employees played games to remove that lethargy (Balci & Aghazadeh, 2004). It not just breaks monotony but also develops competence by bringing a spirit of competitiveness amongst employees (Rupp et al., 2017). Earlier companies were not in favor of employees investing their time in online games as these were believed to distract them from work. However, the positive impact of games on employees' performance has changed this mindset now (Miller, 2005). Introduction of games at workplaces has helped employees' work/life balance, keep a healthy mind and boost performance (Granic et al., 2014). Leveraging on the advantages of games, companies have eventually started utilizing games for training employees in acquiring wide range of skills from cooperation to complex instructions. Games whether played as a pass-time or in a structured way, tickle employees'minds making them learn something new always. Eventually, making employees more creative and competitive. This has removed the age old conflict between work and play. Elimination of this contradiction has led to gamification of lot of processes at workplace. Gamification is the "term for the phenomena of employing game features or mechanics in non-game circumstances." (Boitnott, 2021)

Companies struggle to keep their employees engaged and productive at workplace. Therefore, they try to strike a balance between playing games and work so as to make the staff interested, motivated and healthy without compromising on productivity (Anastasia & Chaplin, 2005). With no restriction on internet it's impossible to stop employees from playing games. Some companies monitor and restrict the use of certain websites on official computers, however, smartphones have changed that too. It's important therefore for the companies to know the amount of time that employees should be allowed to take breaks.

There are many studies that point out the adverse impact of video/online games. Researches also show the positive impact these can have on health of a person. Online games also improve problem-solving skills of an employee (Keith et al., 2018). Organizations can't allow employees to engage in online games during work hours all the time (Lu & Carradini, 2020).However, looking into the benefits of gaming, employees should be allowed to take breaks and play online games (Granic et al., 2014). The present study delves into video games played during break-times by employees and its impact on their performance (Balci & Aghazadeh, 2004).

OBJECTIVES OF THE STUDY

Several studies have discussed about impact of online games on employees' performance and engagement. Some studies point towards increased productivity, performance and team collaboration among employees after playing online games at workplace whereas some point towards negative impact of these games on employees e.g. fatigue, distraction from work etc.

There are several elements in a game like an element of competence, a sensory and imaginative immersion, a flow, a level of tension or annoyance, a challenge, a positive and negative affect which a player experiences while playing the game. The aim of this study is to know the impact of each of these elements on the performance of employees. Some of the objectives of study are given below:

1. To know the relationship between competence element in video games and employee performance.
2. To understand how the sensory and imaginative immersion in gaming impact employees' performance.

3. To know the relationship between "flow" in gaming and employee performance.
4. To recognize the relationship between tension or annoyance in gaming and employee performance.
5. To identify the relationship between challenge and employee performance.
6. To discern the relationship between negative and positive affect in gaming and employee performance.

LITERATURE REVIEW

The impact of gaming on performance of teams has been discussed in an article published in Forbes, according to that, productivity of teams that played a collaborative (video) game for about 45 minutes was found to be 20% higher than other teams, even team-building exercises were not able to achieve the same kind of productivity increase as gaming (Brower, 2019). Companies that need to gain advantage from gaming should establish a culture of gaming and should have a bunch of employees who are willing to play (Anastasia & Chaplin, 2005; Boitnott, 2021; Keith et al., 2018).

A certain balance between work and game should be maintained. Games played on smartphones can be so addictive that players may lose sense of time when they are playing these games. Lords mobile is one such video game in which player is supposed to become a member of a guild and has to build and guard his castle. Sometimes, employees get so hooked to the game they keep playing the game and their work suffers, reducing the level of productivity. It was observed that employees played these games whole night and were late for reporting to work. Therefore, the time devoted to these games should be determined before introducing these at the workplace.

There are some video games that activate particular areas of brain and bring cognitive flexibility. Cognitive flexibility is "the ability to think about multiple concepts simultaneously" (Phoon, 1997). Players of StarCraft2 game were de-stressed, relaxed and experienced increase in concentration levels after the game. These video games if played in team assist in team building and bring team members closer (Keith et al., 2018; Rogers, 2016). Most of the corporates have made these games part of their culture and leverage these for improving productivity (Boitnott, 2021). Since, playing games just need a flair for playing these games irrespective of which level (hierarchy) they are working in the corporate. These games lead to hierarchy-less workplaces fostering co-operation, collaboration and amiable work environment. Eventually, it leads to increased profit margins due to increase in productivity (Griffiths et al., 2003) . Autonomy is favored to micro-management these days. It is proved by the fact that 20% increase in productivity is observed by Scottish American after introduction of flexible work hours (Brower, 2019). Employees don't like to be keenly supervised (Boitnott, 2021). When they are given a free-hand in deciding how they use their time on and off work, they become more innovative and creative. Innovation is key to success of any organization in today's VUCA environment. Therefore, to bring creativity in the organization, companies should look into automating the routine tasks and give employees the freedom to decide on the way they utilize their time at workplace (Hughes & Writer, 2020).

Popularity of games can be established by the fact that there were about 2.2 billion gamers all over the world in the year 2018. One need not go to Las Vegas to play in casinos these days, all one has to do is download one game on the mobile phone and place bets. At workplace, games have led to positive results in the form of enhanced work performance. Researchers at Brigham Young University have found that playing games at workplace with colleagues can lead to 20% increase in productivity (Brower, 2019; Freedman, 2017).

It is interesting to know the scientific reason for increase in productivity after playing games. Games stimulate our mind. It has been established that adrenaline is secreted in our body when we play games. It is an emergency hormone and secretion of adrenaline leads to increase in the brain power (Phoon, 1997). A sudden increase in adrenaline leads to immediate increase in productivity which can be easily observed. Besides, games are said to be stress relievers and employees have been reported saying that these help them in dealing with the competitive work environment. Games serve as stress buster for those who perform routine and boring jobs (Keith et al., 2018; Scott, 2020).

Work environment has huge impact on employees' productivity. A happy and engaging environment can boost productivity whereas a stressful environment makes it unproductive. Work-stress and continuously working for long-hours at workplace is a major reason for unproductivity (Boitnott, 2021). Games relieve people of stress. Therefore, introduction of games at workplaces have led in creating more fun and engaging work-environment. A happy workplace is a productive workplace as it lifts stress off employees and employees become more creative and productive (Scott, 2020; Tettegah & Huang, 2015; Gorjifard & Crawford, 2021).

A study on physical work environments of software engineers revealed that work-environment play an important role in increasing productivity of these employees. Ability to work privately without any interventions and ability to communicate with teams were the two factors that assisted in increasing productivity, according to the study. Past researches have established that playing video games together helps in development of camaraderie amongst team members which improves productivity of the team (Johnson et al., 2021).

A similar such study conducted on government workers has mentioned team communication, freedom and autonomy to work as important factors for improving motivation and productivity of employees. Good work environment can be created by improving communication amongst team members and giving them more control over what they do. As established by previous studies, video games when played in team help in improving communication amongst team-members. So, games can be used to improve communications and break hierarchical barriers in organizations (Hodent, 2020).

Deming suggested 14 principles to make businesses effective. According to Deming, application of these principles result in total quality management in turn improving productivity in the organization. One of the 14 principles is about driving out fear and breaking-down barriers between departments (Walton, 1988). Lot of emphasis is put on making the work-environment fear-free so that people can come forward and contribute towards achieving the goals of the organization in an effective manner. Games can be used to create fearless, fun-filled and friendly environment as established by previous studies. Incorporating games in the culture of the organization can enhance the productivity of the organization by improving the quality of the work.

Games are successfully used in engaging learners on online learning platforms. In one of the study, learners were divided in two groups. One group of learners were made to play games for five minutes every time they logged in the software. The other group was not made to play any games. The group that played games was more motivated and learned more than others (Gee, 2003; Huang et al., 2013; Phoon, 1997).

Is there any difference between employees who like to play games and who don't like to play games? Probably, there is. A study based on survey of 833 employees revealed that the employees who are more stressed or experience work related fatigue engage more in playing games at workplace. Employees' told that tiredness and strain reduces after playing games. Additionally, people who receive less social support at workplace have high inclination for playing games. Employees whose colleagues or supervisors are non-supportive engage more in playing games at workplace. So, social situations at workplace, work-environment and work-stress are the factors that determine if an employee will engage in playing games at workplace or not (Reinecke, 2009).

Key Concepts of Dependent Variables

Competence: Competence is defined as "the ability to do something". Competence is what an employee requires to achieve desired results or performance. Competence to perform a particular work increases if a person knows what abilities or skills are required to perform that job. The task if performed properly gives the desired results and once a person achieves the desired outcomes, one feels competent enough to do it. Sense of achievement motivates a person and propels one to achieve more. In case a person doesn't achieve desired outcomes, one knows what it takes to do that task. In that case, person strives to acquire skills required to complete that task.

Sensory and Imaginative Immersion: Video games appeal to a person's senses. The sound and visuals used in games are so overpowering that a person is totally focused on the game and loses sense of reality. This is called sensory immersion. Games pose several challenges to the players. This requires players to balance their capabilities/competencies with the challenges of the game. Players test their competencies against these challenges and overcoming these challenges provides a sense of achievement and they are hooked to the game (Greitemeyer & Cox, 2013). This is called challenge-based immersion. The characters and story of the games are very pivotal for a game. These imaginative characters make players identify with them. Players feel like they are the characters of the game and they empathize and enjoy with them. This is known as imaginative immersion.

Flow: 'Flow state' is defined as "a certain successful balance between the perceived level of challenge and the person's talents". A person in this state is completely engrossed in what he is doing and loses track of time. One experiences great joy in this flow state. Video games create such experiences for the players. Since there are many levels in game, as players cross levels in the game, it becomes more challenging and allows them to test their abilities to the optimum level. In addition, the feedback is spontaneous which helps them know their mistakes, improvise and play again to win the game. Game becomes the goal in itself.

Tension/Annoyance: Sometimes, instead of impacting positively a game may cause anger, tiredness and discontent. There can be adverse effects of playing games in some.

Challenge: Challenge should be according to the player's ability. Challenge has two aspects speed or pace and cognitive problems. These obstacles when presented in right proportion and improve the quality of the game. Apparently, challenges should match with player's abilities. Player's experience of game depends on the right mix of obstacles and the balance of these obstacles with talents or skills of the player. Challenges or obstacles may require the use of physical or mental/cognitive skills e.g. problem solving, strategic thinking etc. However, both physical and cognitive skills may be required to overcome the challenges of the game.

Negative Affect: Sometimes, there is no impact or adverse impact on the players after playing games.

Positive Affect: Elements of Mystery, anxiety, and physical arousal in games have positive impact on players as after winning the game they achieve closure and resolution. In a game when they cross a level or overcome an obstacle their anxiety or arousal turns in bliss and is very gratifying for them. Generally the three-level model is adopted for creating games –" The first level consisting of interactive input-output loops, the second of cyclic sensations of tension and relief, and the third of the attraction of a momentary escape into another world."

Productivity

It is difficult to quantify or measure productivity of a worker especially a knowledge worker.

Productivity can be defined as "the number of tasks completed in a given period of time." However, measuring productivity this way does not takes into account the quality of the product, no. of mistakes a person makes while working, physical and mental health of the employee. It is important for any organization to consider these as faulty goods, tired or burned out employees can result in increased cost to the company in the form of repairs, rework and recalls (Anastasia & Chaplin, 2005). This study particularly focuses on understanding the relationship between seven elements of games viz. Immersion, Flow, Competence, Positive and Negative Affect, Tension, and Challenge on employees' productivity or performance.

It was found in a study that taking frequent breaks instead of one large break can be more productive e.g. if two individuals are working for an hour, employee who takes two small breaks of 15 minutes in between will be more productive than the employee who takes one break of 30 minutes. Performance starts deteriorating after long work hours but if small breaks are taken in between performance reaches to its peak. So, employees taking small intermittent breaks can prove very productive to the organization (Anastasia & Chaplin, 2005; Balci & Aghazadeh, 2004).

Factors Influencing Performance

It has been discussed in many studies that if employees play video games during break hours their productivity increases. This study is an effort to know the impact of the gaming experience on employees' performance at work. Study explores the impact of seven major factors/elements of game, i.e., 1) Competence, 2) Sensory and Imaginative immersion, 3) Tension & Annoyance, 4) Flow, 5) Positive Affect, 6) Challenge and 7) Negative Affect on performance of employees'.

H1: There is association between 7 elements of game viz. positive & negative effect, flow, immersion, tension and employees' performance.

Research Methods

The purpose of this study was to know how playing video games during break hours impacts work performance of employees. Many studies have resulted in contradictory findings on this issue, we have tried to understand impact of 7 elements of game on performance.

Three hundred employees of IT companies located in Mumbai and Navi Mumbai regions were approached electronically to fill a questionnaire on the topic. Only 273 employees responded and returned the questionnaire. Therefore, analysis was conducted on the data collected from 273 participants.

Measures

Standardized questionnaires were used to conduct the study. These questionnaires have been tested for validity and reliability by many researchers before. Game Experience Questionnaire (GEQ) was used to measure the gaming experience of employees on seven features of game like Immersion, Flow, Competence, Positive and Negative Affect, Tension, and Challenge (IJsselsteijn, Kort & Poels, 2013). Utrecht Work Engagement Scale (UWES) was used to measure the performance of workers. Observations were taken on 7-point Likert scale (Schaufeli & Bakker, 2003).

Work performance was taken as a dependent variable while the 7 elements of game as mentioned in Figure 1 were taken as independent variables.

The questionnaire was administered to those who play games for about 30 minutes every day during their breaks (Balci & Aghazadeh, 2004). They used Play Station 4 to play games in their organizations.

Games

According to the respondents, they reported playing two specific games: Call of Duty: Black Ops 2 and FIFA 22. These games were mentioned as examples within the context of the study. It is important to note that the respondents' preferences and game choices may vary, and these two games were highlighted as relevant examples in the given study. Black Ops2 is a game which can be played together with other friends or members (team) or against an opponent. Opponent can be a human being or a computer (Pötzsch & Šisler, 2019; Sailer et al., 2017). Players who play against each other try to kill the opponent. When playing together players collaborate with each other to destroy their opponent who can be another player or computer. Players are given some money in the game which they can spend on buying weapons to beat their opponent. Players make strategies together to defeat their opponent. In case the fellow player is injured in the game, another player who is closest tries to save that player. The game ends if the players of one team die. Therefore, these games have been crucial in making the players learn important lessons of team synergy, strategy and standing for each other. They realize that team wins and loses collectively not individually. FIFA 22 can be played individually or in team. It can also be played against human-beings or computers. The game has time limit of 10 minutes. These games certainly help in strengthening the bonds between team players (Balci & Aghazadeh, 2004).

Figure 1. Research framework
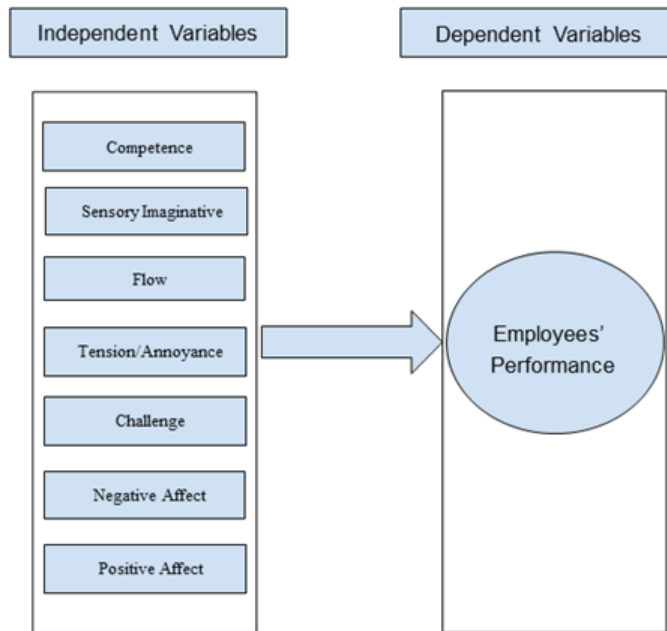
Gaming Experience and Performance

Employees work continuously for hours together and require their full attention and focus while working. Continuous work put strain on their physical and mental health causing tiredness and fatigue. They feel exhausted due to depletion of energy levels (Sonnentag, 2018).

Restoring energy levels require recovering and replenishing the depleted resources which can be done by a) psychologically separating oneself from work and totally alienating from negative feelings generated by the work b) Relaxing oneself by soothing down one's physiological and psychological systems c) gaining expertise by performing challenging tasks thereby enhancing one's skills and competencies d) enjoying some leisure time for mental well-being (Dobrowolski et al., 2021; Attrill-Smith et al., 2019).

Many studies support that video games help in restoring and recovering energy levels of individuals as these allow the player to immerse in the creative fantasy world by totally alienating from the stress of the real world. Games intervene through the immersive media experience and pose cognitive demands on players. This grabs their attention and focus and in turn relaxes their mind (Green et al., 2010; Sailer et al., 2017; Rosas et al., 2003).

Affirmative messages from these games help in reducing over-thinking and depression. This removes tension and lead the person to relax. Games create a world of fantasy and allow the player to adopt different roles and personalities of fictional characters. These beyond the world experiences and gluing storylines of games help the players ward off their tensions, worries, negative feelings and adversities (Mercier & Lubart, 2022; McGonigal,2011). This reaffirms the fact that games heal an individual by providing relaxation and socially alienating one from real world. Since players can influence the storyline of the game and the way it can progress, that gives them the feeling of superiority and power. This increases their self-efficacy by providing them confidence (Primack et al., 2012).

Team games help in increasing productivity of team by enhancing team cohesiveness (Rupp et al., 2017; Sluiter et al., 2003). Video games said to be therapeutic as these allow the person to display and utilize talents to the optimum level thereby reducing stress and fatigue, preventing burn-out and

generating positive feelings (Griffiths, 2019; Primack et al., 2012; Haenisch, 2012). Some games like Pokémon-go also involve physical activity and can improve one's fitness.

Data Analysis

Regression was applied to evaluate the influence of 7 factors of game (independent variables) on performance at work (dependent variable).

Regression analysis was carried out using SPSS program.

Testing of Hypothesis

Relationship between variables (R) = 0.916 Explanatory power (R Square) = 0.839

The Multiple R for the relationship between the set of independent variables and the dependent variable is 0.916, which would be characterized as strong using the rule of thumb than a correlation less than or equal to 0.20.

83.9% of total variation is explained by the model (correlation is 0.91). This means that 83.9% of the variation in the performance at work can be explained by the variability in the Flow, Competence, Challenge, Negative Effect, Positive Effect, Sensory Imaginative, Tension/annoyance.

The b coefficient associated with strength of affiliation is positive, indicating a positive relationship between Competence, Tension/annoyance, Sensory Imaginative, Flow, Positive Effect, Challenge during gaming and performance at work. While a negative relationship between Negative effect of the game and performance.

Table 1. Description of variables

Variable Type	Variable
Dependent variables	Performance
Independent variables	Competence Sensory and Imaginative Immersion Flow Tension/Annoyance Challenge Negative affect Positive affect

Table 2. Descriptive statistics of the data

Factors	Mean	Std. Deviation
Competence	77.1319	10.06692
Performance	61.5823	17.63058
Tension/annoyance	26.0220	3.84720
Sensory Imaginative Immersion	74.7260	11.04872
Flow	40.0000	4.69668
Positive Effect	88.0440	2.75432
Challenge	57.1429	3.47863
Negative Effect	59.4286	1.40228

Table 3. Correlations between various game factors and performance

Independent Variables		Dependent Variable (Performance)
Competence	Pearson Correlation	.572**
	Sig. (2-tailed)	<.001
Tension/annoyance	Pearson Correlation	.900**
	Sig. (2-tailed)	<.001
Sensory Imaginative Immersion	Pearson Correlation	.568**
	Sig. (2-tailed)	<.001
Flow	Pearson Correlation	.149*
	Sig. (2-tailed)	.014
Positive Effect	Pearson Correlation	.022
	Sig. (2-tailed)	.715
Challenge	Pearson Correlation	.047
	Sig. (2-tailed)	.441
Negative Effect	Pearson Correlation	-.063
	Sig. (2-tailed)	.297

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 4. Regression analysis: Estimation of standard error deviation model summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.916[a]	.839	.835	7.15961

a. Predictors: (Constant), Flow, Competence, Challenge, Negative Effect, Positive Effect, Sensory Imaginative, Tension/annoyance
b. Dependent Variable: Performance

Table 5. Analysis of variance ANOVA

ANOVA[a]					
Model		Sum of Squares	Df	Mean Square	F	Pr (Sig.)
1	Regression	70963.883	7	10137.698	197.770	<.001[b]
	Residual	13583.917	265	51.260		
	Total	84547.800	272			

a. Dependent Variable: Performance
b. Predictors: (Constant), Flow, Competence, Challenge, Negative Effect, Positive Effect, Sensory Imaginative, Tension/annoyance

RESULTS AND DISCUSSION

Results of the Pearson correlation test showed a significant correlation between all the independent and dependent variables. Pearson correlation test is used to determine the strength of the linear relationship between two variables, with values ranging from -1 to 1. A value of -1 indicates a total negative linear correlation, 0 indicates no correlation, and +1 indicates a total positive correlation. Based on Table 3, it is

Table 6. Regression coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-53.115	27.137		-1.957	.051
	Competence	.205	.052	.117	3.934	<.001
	Tension/annoyance	3.502	.158	.764	22.108	<.001
	Sensory Imaginative	.176	.047	.110	3.748	<.001
	Flow	.064	.095	.017	.676	.500
	Positive Affect	.274	.162	.043	1.697	.091
	Challenge	.294	.126	.058	2.329	.021
	Negative Affect	-.823	.322	-.065	-2.559	.011

clear that the Tension/Annoyance factor has a strong positive correlation (r=.900), while the Competence (r= .572) and Sensory and Imaginative Immersion (r=.568) factors have moderate positive correlations, and the Flow factor (r=.149) has a low positive correlation with the dependent factor Performance.

Multiple regression analysis was performed on different factors/elements of a game (independent factors), including Competence, Sensory and Imaginative Immersion, Flow, Tension/Annoyance, Challenge, Negative Affect, Positive Affect, and the Performance of employees (dependent factor). Coefficient of determination (R^2) is used to determine the goodness of fit, with values ranging from 0.0 to 1.0. A value of 0.0 indicates no linear relationship between variables, while a value of 1.0 indicates a perfect linear relationship. The R^2 value for the multiple regression is 0.839, indicating that the predictor variables are correlated to employee performance by 83.9%. The adjusted R^2 value is 0.835 for 273 observations, indicating substantial variance due to these factors on employee performance (Table 4).

Significance or Pr value is the probability that the current observation has occurred by chance. Pr value must be less than 0.15 for the best fit. In this research, the significance or Pr value is less than 0.01, which is smaller than 0.15 and indicates best fit of the model (Table 5).

ANOVA table describes the factors that strongly predict the dependent variable, which are those with a significance value of less than 0.05. In Table 6, clearly shows that the significance value is less than 0.001 for the factors of Tension, Sensory Imaginative, and Flow, and is 0.021 for the factor of Challenge and 0.01 for Negative Affect with a negative beta coefficient. Based on this, it can be concluded that Tension, Challenges, Sensory Imaginative, Flow, and lesser Negative Affect can be used to predict the performance of employees who play online games.

Previous studies have been unable to determine the specific elements of online games that appeal to employees and can influence their performance at work. Consequently, conducting a study in this area could serve as a foundation for future research. Undertaking such research could indeed contribute to the understanding of how online games might impact employee performance and provide valuable insights for organizations. This research can serve as a stepping stone for future studies and potentially provide practical implications for organizations seeking to understand and optimize the relationship between online games and employee performance.

CONCLUSION AND RECOMMENDATIONS

Earlier video games were not considered good for physiological, social and psychological well-being of individuals. However, gradually the perceptions about video games have changed. People now are

discussing about the positive impact these games can have on individuals. These perceptional changes have occurred when players have experienced alleviation of stress, increased competence levels and relaxation after playing these games. Looking at the benefits of these games, companies also have changed the approach towards these games. Earlier employees were not allowed to indulge in these games at workplaces as these have termed to cause distraction and were seen as wastage of time. However, now companies have created in-house video game-parlors. They encourage their employees to rejuvenate themselves by playing video games during break-time. This has certainly improved the performance of employees because they feel relaxed and fresh after playing video games and that gets reflected in their work. given boost to video game business. However, more research is required to scientifically prove the relationship between games and enhanced productivity.

SCOPE OF FURTHER RESEARCH

Older employees are not that tech-savvy so these employees were not surveyed and the present study was limited to young employees working in IT industry. Also, employees surveyed were used to playing these games and were not totally new to the gaming world which may have impacted the results in some way. The games discussed in this study have an element of competitiveness in these which helps in team building and enhancing competence (Rogers, 2016). Most of the employees of this generation play these games so we expect that this study has wide application and implications.

The results should be tested with different age-groups, different games and different settings/environments and therefore account for further research. A team of psychologists and researchers should delve deeper in this area to find the positive and negative psychological impact of video games on employees' productivity to come up with a concrete theory which will benefit employees as well as game designing organizations (Attrill-Smith et al., 2019).

CONFLICT OF INTEREST AND FUNDING STATEMENTS

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