



## **A Study on Gamification and Organizational Competitiveness in Select Public Organizations of Jalandhar**

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### **ABSTRACT**

In the workplace, gamification is a common strategy that can help employees become more engaged and motivated, increase productivity, and reduce errors. Gamification, on the other hand, has some drawbacks in terms of how competitive an organization can be. Using a literature review and empirical research, the study investigated the effect of gamification on organizational competitiveness in public organizations.

The process of incorporating game principles and mechanics into a non-game experience is known as gamification. Where is the use of gamification? Almost everywhere you look. It is about incorporating gaming elements into instructional strategies for more efficient training and learning for business trainers.

Corporate training programs, in which employees are given assignments or tasks that require some level of skill or knowledge on their part (such as completing a questionnaire about their company culture), are one-way businesses have been utilizing this strategy. The employee is then rewarded with points for each successful completion of this task, which encourages them to achieve the specified objective.

Gamification has the potential to improve employee engagement, motivation, and participation in the training experience, which is advantageous to both the employee and the business. Engaged workers are more likely to attend training sessions and complete tasks given to them by supervisors. As a result, they will be better able to concentrate on their work while learning new skills or performing other duties at work, resulting in increased output at work.

By making employees feel like they are a part of a team or community where they can learn new skills and meet new people who are interested in the same things as them, gamification can also help motivate workers. People who might not have been motivated enough to learn something new at work if it did not feel important enough to them personally are motivated. In order to assess the validity of gamification techniques used at IOCL, Jalandhar, it was important to understand how the company has used gamification and what impact it has had on organizational competitiveness; we looked at how it has been implemented and how it has been used to increase organizational competitiveness.

In our study, we discovered Swadhyaya, software used by IOCL to enhance learning and development activities. Through this they get maximum exposure of different fields and help the employees to become a cross functional employee and all-rounder for the company. Swadhyaya has been ranked as the best learning and development platform in the world by the organization "International Federation of Training and Development Organizations" in 2022.

Ultimately, findings from the study showed us that the implementation of Gamification has indeed shown improvement and efficiency in processes such as learning, development, training, productivity, effective communication, etc. Our research reflects that the respondents felt that use of gamification techniques improved their morale and boosted their efficiency while at work. The use of Gaming style technology in the form of Swadhyaya further helped employees feel motivated.

**Keywords:** Gamification, Statistics, Skills.

### **1. Introduction**

Gamification is a widely used strategy in the workplace that can help to motivate and engage employees, increase productivity, and reduce errors. However, there are some limitations of gamification in terms of organizational competitiveness. The study will examine the impact of gamification on organizational competitiveness in public organizations by using a literature review and empirical research.

The term "gamification" refers to the process of applying game design elements to an activity that isn't traditionally considered a game. When is gamification used? Pretty much wherever you go. The incorporation of game mechanics into traditional training methods is a growing trend in corporate education. Patten (2021).

One-way companies have been using this approach is through corporate training programs where employees are given an assignment or task that requires some level of skill or knowledge on the part of their employees (such as completing a questionnaire about their company culture). The employee then receives points each time they complete this task successfully, which helps motivate them towards reaching the set target or goal.

When used effectively, gamification may improve employees' interest, motivation, & involvement in the training process, all to the advantage of trainee & business. **Patten (2021)**.

Employees who are more engaged will be more likely to participate in training sessions and complete tasks assigned by their supervisors. This means that they will be more productive at work because they are better able to focus on their work while they are learning new skills or performing other tasks at work.

Additionally, gamification can help increase motivation among employees by making them feel like they are part of a team or community where they can learn new skills and meet new people who share similar interests with them. This feeling of belongingness helps motivate people who may otherwise not have been interested enough in learning something new at work if it did not feel like something important enough to them personally.

The empirical research will be based on a qualitative survey administered online to employees from IOCL across Jalandhar. This study will investigate the effects of implementing gamification strategies at work on organizational competitiveness among these organizations by examining their financial performance, employee engagement, customer satisfaction, customer loyalty and other measures relevant to organizational competitiveness.

### 1.1 Objective

- To examine the factors determining the need of gamification
- To study the role of gamification in organizational competitiveness

### 1.2 Significance Of The Study

The validity of gamification techniques used at IOCL, Jalandhar. In order to understand how the company has used gamification and what impact it has had on organizational competitiveness; we need to look at how it has been implemented and how it has been used to increase organizational competitiveness.

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## 2. Literature Review

**Uziako (2022)** provides a thorough analysis and breakdown of the gamification procedure in their article, "Gamification injects game play and rewards into everyday activities to build customer loyalty and increase engagement". The goal of gamification as per the author is to get users to participate. Gamification strategies have been used by companies like Starbucks, Nike, and even organisations such as the United States Army to increase customer engagement and brand loyalty in their sectors. However, gamification also comes with its own limitations, such as rewards programs that rely on gamification to increase brand loyalty but sometimes they fail to do so due to poor implementation or ineffective rewards programs.

Gamification is certainly being utilized by a number of well-known organizations to engage users. Here are a few popular campaigns we can use to assess this technique:

By utilizing gamification as a recruitment tool on a variety of websites, the United States Army has capitalized on this idea. Users can increase their interest in joining the armed forces by playing military training games.

Beat the GMAT, is a website made for MBA students that promotes healthy competition among those studying for the GMAT with the intention of assisting them in improving and securing high scores to apply for top universities. When various preparatory tasks are completed, points and badges are awarded to the students. One of the most well-liked programs in the world using gamification is Starbucks' loyalty program. The company created an app that lets loyal customers accumulate stars that can be exchanged for prizes and free drinks.

Fuel for Nike: Users of the A Game for Your Body app can compete against one another in physical challenges. Physical activity is evaluated using a points system that offers virtual prizes. The app lets users compete against friends or strangers and instantly share their results on social media pages.

**Patten (2021)** states that gamification is the application of game principles and mechanics to non-game settings. He says in his research that gamification can be used to make employees more involved in the training experience, motivated, and engaged. In fact, it has also been utilized to enhance training and learning strategies to increase employee retention rates.

You might be curious about how corporate trainers can use gamification with employees of their clients. Seven examples of how this method is currently used in corporate training programs are provided here.

Cisco, the organisation had discovered that Domino's Pizza Maker course is a gamification training strategy that employs simulations to engage, evaluate, and reward employees during the learning experience by drawing on insights from companies like Domino's. The games helped new employees quickly master the menu and produce more accurate pizzas by including elements that encouraged employees to attempt to improve previous scores, thereby reducing onboarding time.

Through the introduction of three certification levels set by the firm—Specialist, Strategist, and Master—that participants could apply and reach out for, Cisco made its social media training program more gamified. Additionally, Cisco introduced four sub-certification levels for internal partner teams, external communications, sales, and HR. Cisco added team challenges to the mix in order to encourage healthy competition and teamwork. Over 650 Cisco employees had been certified successfully after the course, and well over 13,000 courses had been taken..

**Smiderle et al. (2020)** studied the effects of gamification on students' learning, behavior, and engagement in a programming environment based on their personality traits. They found that gamified learning environments can improve engagement levels similar to those achieved by video games and that this can lead to improved skill acquisition and optimization of learning processes. At the same time, scientific studies have shown that user preferences can lead to adverse outcomes in gamified environments; these experiences are largely dependent on user characteristics.

“For four months, we monitored 40 undergraduates enrolled in introductory computer science classes. Students were divided into two groups and given a choice between a gamified programming environment with leaderboards, points, and badges, or the traditional, non-gamified environment..

We observed that gamification had different effects on users with different personalities. Based on our findings, it seems that the impact of gamification is very context-dependent. The findings of this research demonstrated that students' actions changed when exposed to gamified version of this course. In the second half of the course, students who used the gamified version had considerably greater accuracy rates than those who did not utilize gamification. This was especially true for students whose personality factors indicated low agreeableness, low openness, or introversion. Students with low conscientious personalities who used non-gamified technology showed a decrease in accuracy over the course of the semester (GA/GB), but introverted students who employed gamification showed no such decrease. We observed large negative connections between extroversion and ranking views, suggesting that adding ranking aspects to a course would be most useful to introverts. Introverted students who employed gamification were more engaged than extroverted students because of the same version.

**Garcia et al. (2017)** acknowledged the need of applying various levels of effort at various project stages. They assumed that the researchers and project teams involved in the process would have to put in a certain amount of effort to accomplish the definition, objective, scope definition and feasibility, player analyses, design and development to fully ensure the program was finding success. The researchers and project team members have to put in hours in order to develop the gamification project; The second step that took the most time was analysis and design, considering the vast data that needed to be assessed. There are two advantages that are brought about by using these tools: Firstly, this type of tool can look at how an applicant acts from different angles; Secondly, it reduces the time investment element in recruitment processes by providing immediate and effective assessment.

**Ergle (2016)** recommends the eight steps to build an effective business game, through identifying overall business goal, then the main objective of the gamification, which would be followed by the third step of identifying the user. The fourth step would require identification of culture or the context for the game to be used in. This would be followed by designing the game and its mechanics in the fifth step and creating the metrics to determine effectiveness of the game like ROI. And finally the seventh and eight step would require implementing and continuously monitoring the game through feedback.

## 2.2 Hypothesis

H0: Gamification does play a role in increasing organizational competitiveness.

H1: Gamification does not play a role in increasing organizational competitiveness.

## 2.3 Research Question

- Does gamification have a significant role in increasing organizational competitiveness?

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## 3. Research Methodology

### 3.1 Method of Data Collection

The data was collected through primary sources with the help of a questionnaire of 10 closed ended question. The close-ended questions make use of 5-point Likert Scale.

### 3.2 Sampling Method

### 3.3 Sampling Technique:

Random and Convenience Sampling

When we use **random sampling**, we are able to get a more even representation of a population. In this way, we can be assured that our sample contains enough people from different groups to accurately reflect the population as a whole.

**Convenience sampling** is also used because it can help save time since we know our target population. We can then spend more time actually surveying members of our target group, rather than having to spend time identifying and recruiting them.

Sample Size: 50

3.4 Results and Discussion

Reliability Test

Table 1: Reliability Statistics

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.835	.836	18

To begin, we initiate a reliability test to understand the data structure. Reliability refers to how dependably or consistently a test measures a characteristic. For instance, would a person's test score remain the same or drastically change if they retake the exam? Reliability in measuring a characteristic is shown when the same results are obtained from several administrations of the same test.

We determine the data's trustworthiness using the Cronbach's alpha. Cronbach's alpha is a statistical method for determining the degree of group cohesion in a collection of objects. The greater the value, the more dependable the collection of scale objects or test items. Cronbach's alpha should be at least .70 to be considered good, .80 to be considered excellent, and .90 to be considered best. We find the value to be 0.835, which is high enough for us to consider these data/products reliable.

4. Analysis

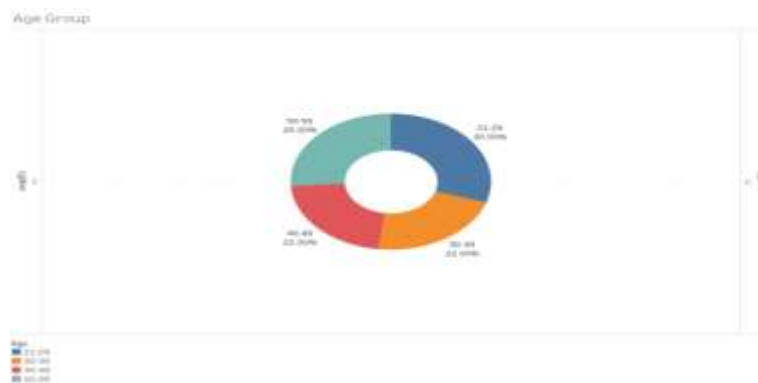


Figure 1: Age Group

From the above chart, we can see the distribution of age among employees is more or less the same across the age groups.

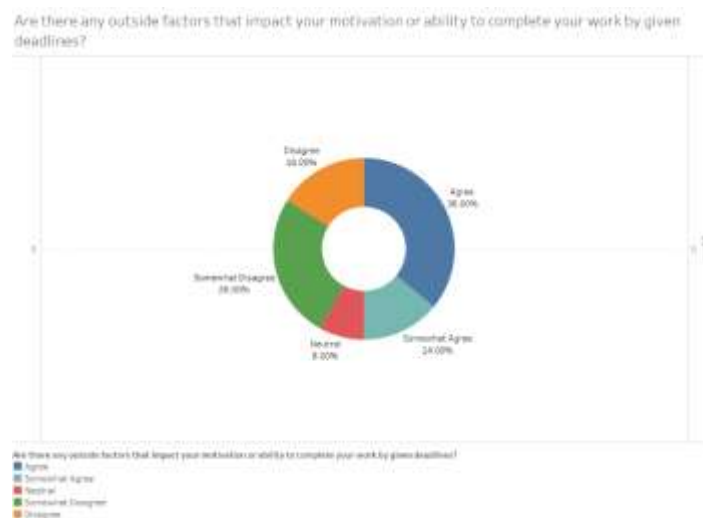
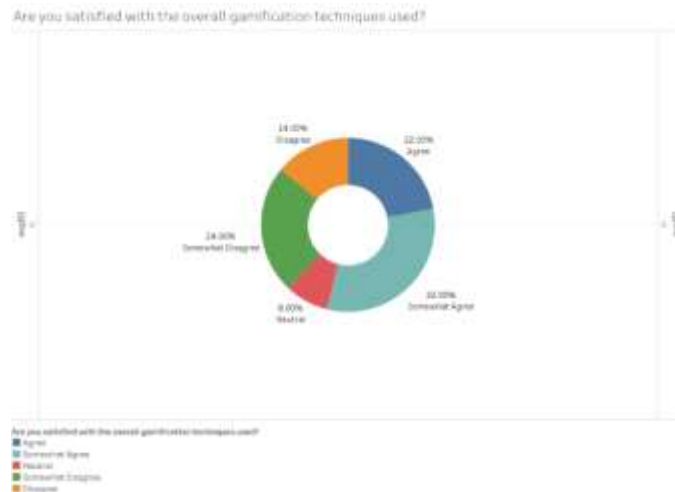


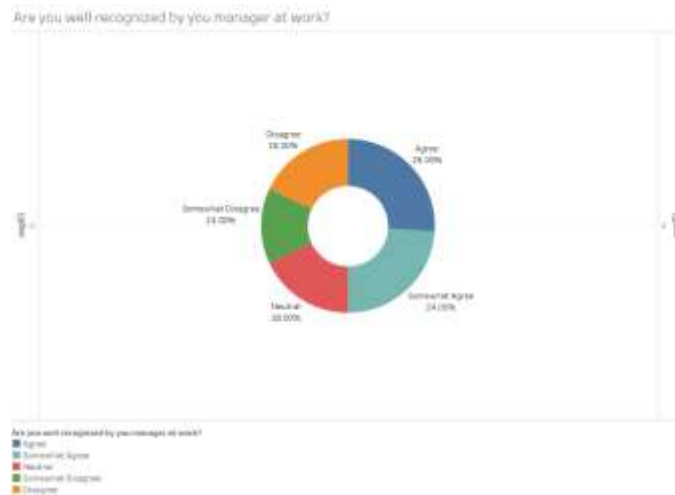
Figure 2: Are there any outside factors that impact your motivation or ability to complete your work by given deadlines.

Majority of the workforce felt that there was some sort of outside factor which impacted their motivation or ability to complete the given work before or on deadline.



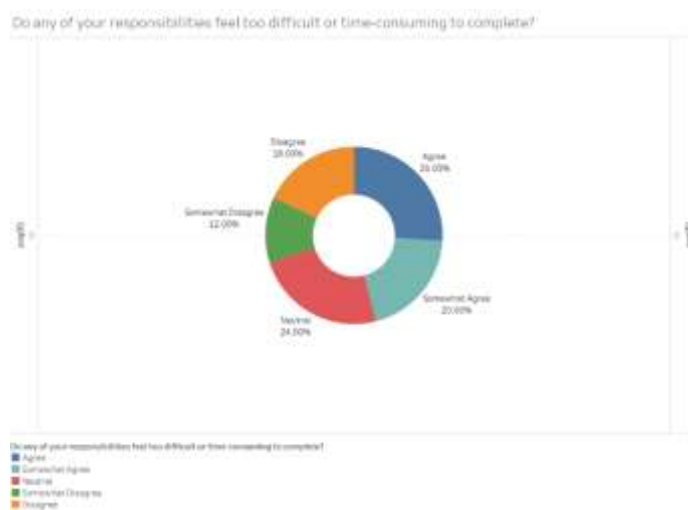
**Figure 3: Are you satisfied with the overall gamification techniques used ?**

Majority of the respondents felt that they were satisfied with the gamification techniques used in the organization.



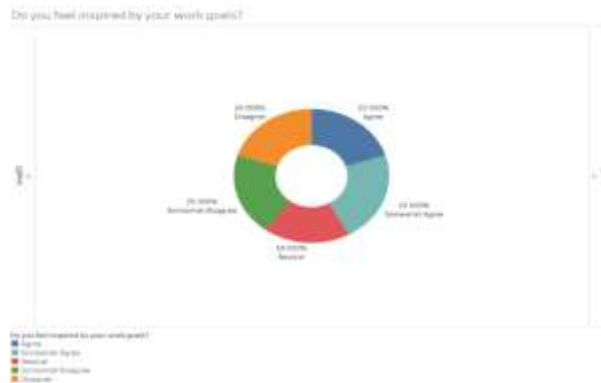
**Figure 4: Are you well recognized by your manager at work?**

More than half of the respondents felt that they were well recognized by their manager at work.



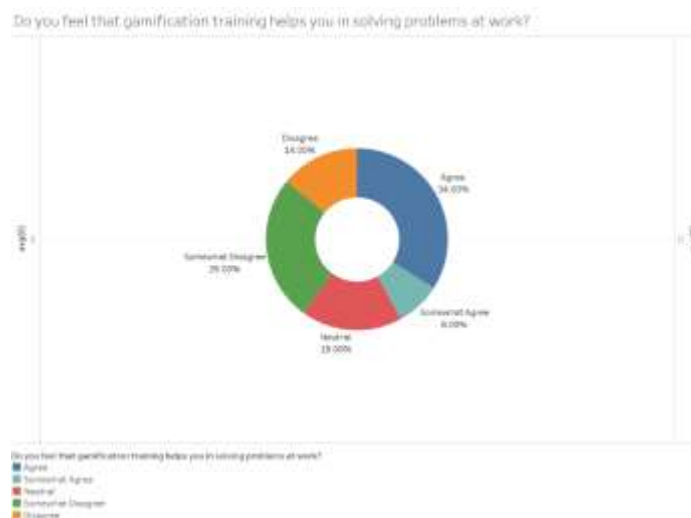
**Figure 5: Do any of your responsibilities feel too difficult or time-consuming to complete?**

Most of the respondents felt it was either too difficult or time-consuming to complete their responsibilities.



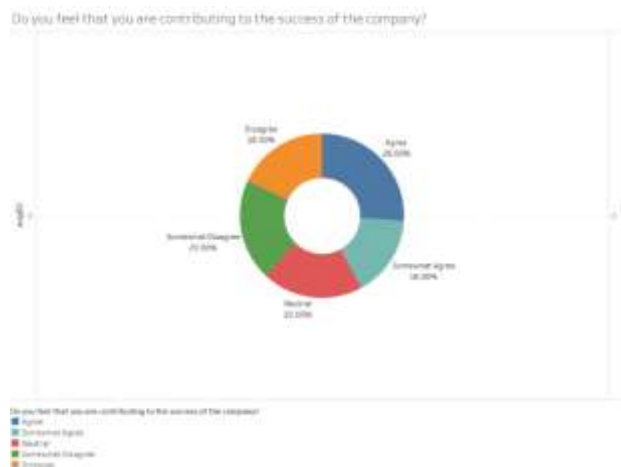
**Figure 6: Do you feel inspired by your work goals?**

Most of the employees felt that it was the work goals that inspired them.



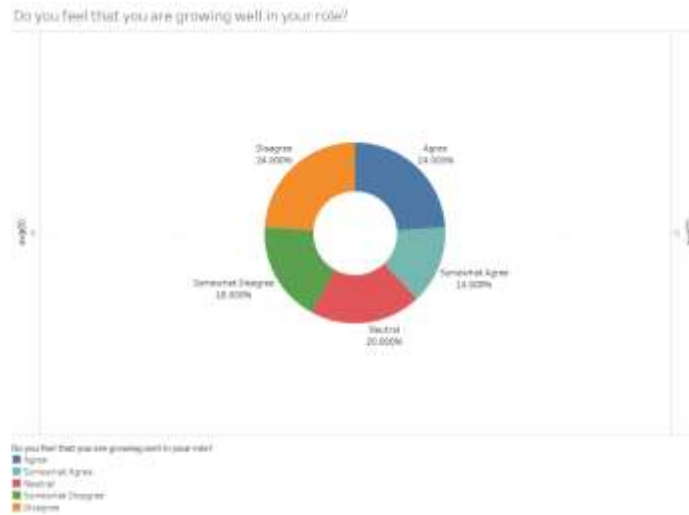
**Figure 7: Do you feel that gamification training helps you in solving problems at work?**

Majority of the respondents felt that it was the gamification training that helps them solve problems arising during work.



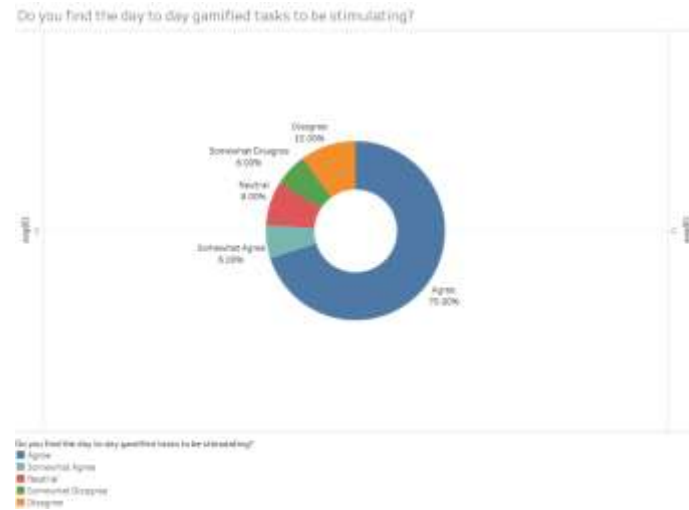
**Figure 8: Do you feel that you are contributing to the success of the company?**

Less than half of the respondents felt that they were contributing towards the success of the company. The sense of ownership of success seemed to be lacking among the managers



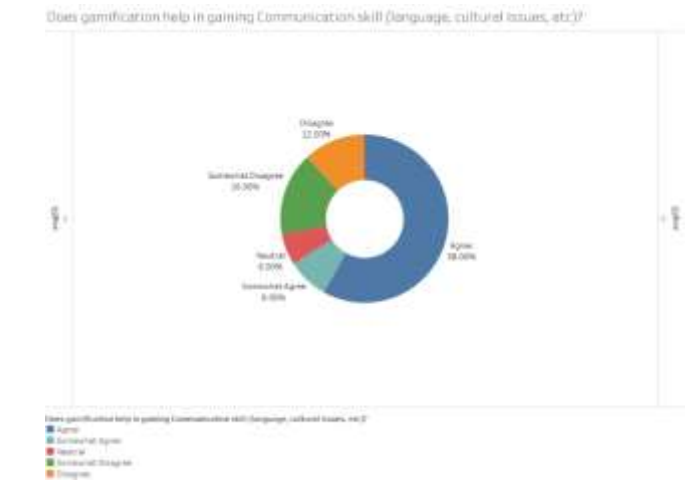
**Figure 9: Do you feel that you are growing well in your role?**

Less than half of the respondents felt that they weren't growing well in their role. A sentiment of stagnation can be observed.



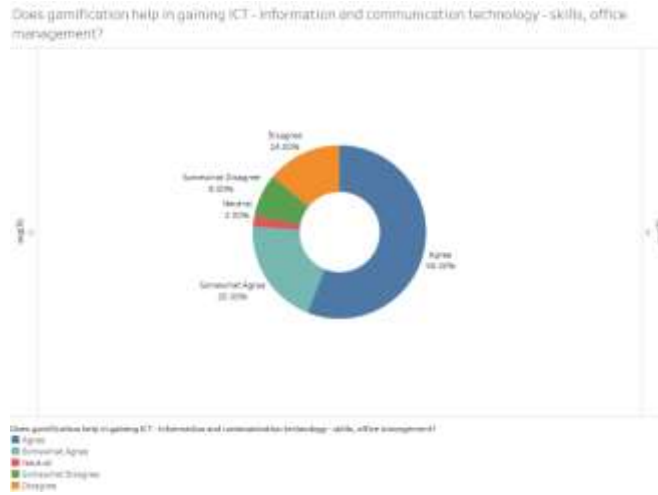
**Figure 10: Do you find the day to day gamified tasks to be stimulating?**

Day to day gamified tasks were felt to be stimulating by more than a third of the employees.



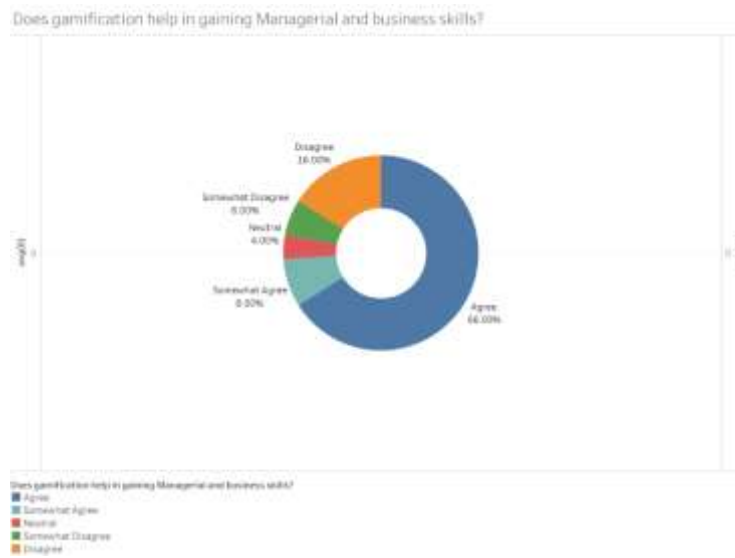
**Figure 11: Does gamification help in gaining Communication skill (language, cultural issues, etc)?**

Majority of the respondents felt that gamification helped in gaining various communication skills.



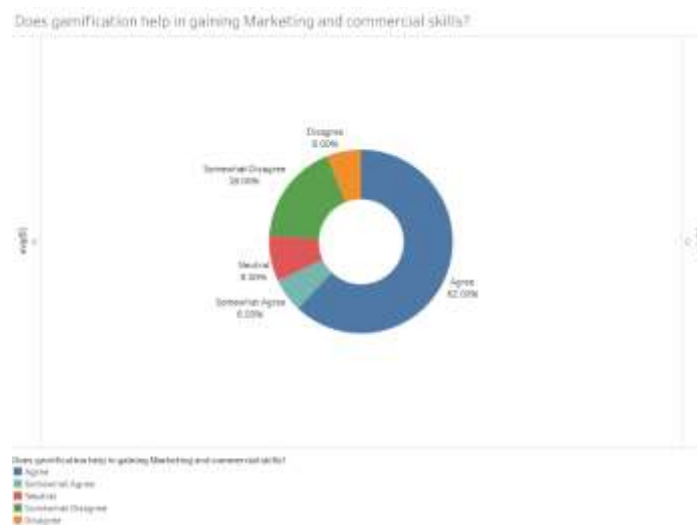
**Figure 12: Does gamification help in gaining ICT - information and communication technology - skills, office management?**

The maximum number (~76%) of our sample set feels that gamification does help them in gaining ICT skills and office management skills.



**Figure 13: Does gamification help in gaining Managerial and business skills?**

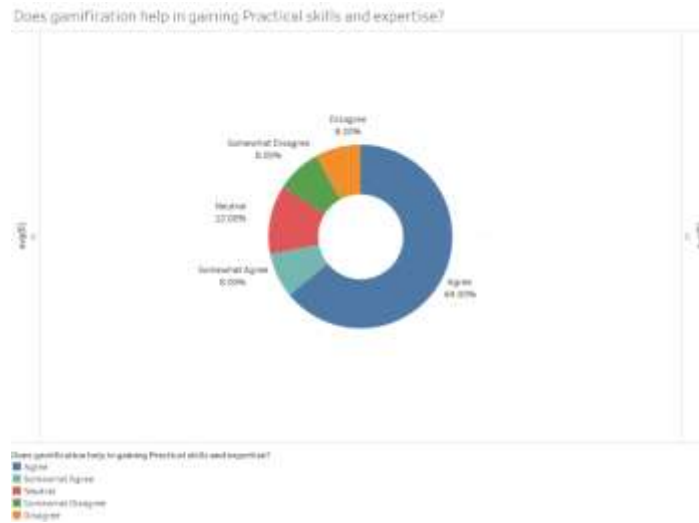
The majority of our sample set feels that gamification does help in gaining managerial and business skills.



**Figure 14: Does gamification help in gaining Marketing and commercial skills?**

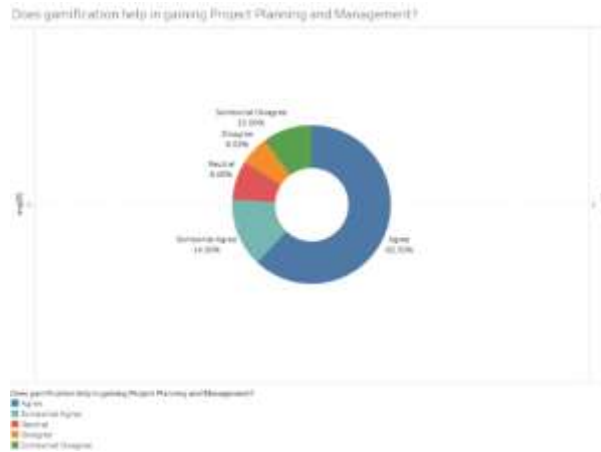


The maximum number (~68%) of our sample set feels that gamification does help them in gaining marketing and commercial skills.



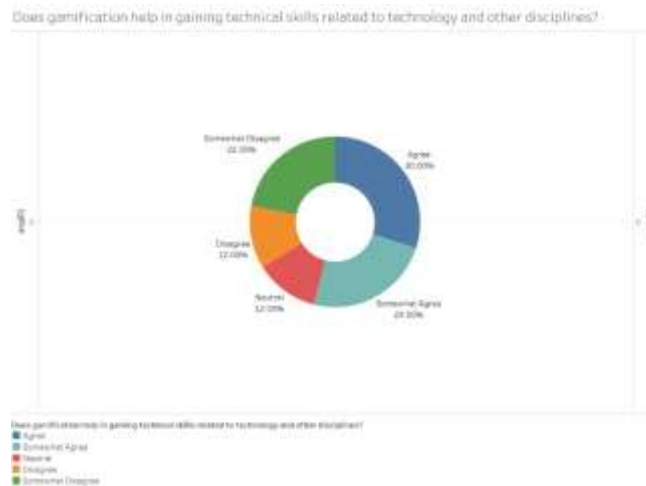
**Figure 15: Does gamification help in gaining Practical skills and expertise?**

70% of our sample set feels that gamification does help them in gaining practical skills and expertise.



**Figure 16: Does gamification help in gaining Project Planning and Management?**

The maximum number (~76%) of our sample set feels that gamification does help them in enhancing or acquiring project planning and management skills.



**Figure 17: Does gamification help in gaining technical skills related to technology and other disciplines?**

Nearly half of our sample set feels that gamification does help them in learning technical skills related to technology and other disciplines.

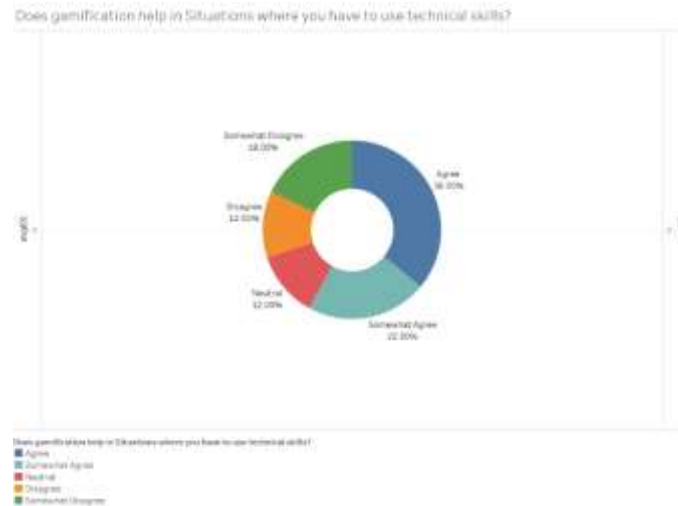


Figure 18: Does gamification help in Situations where you have to use technical skills?

Most of our sample set feels that gamification does help them in using their technical skills.

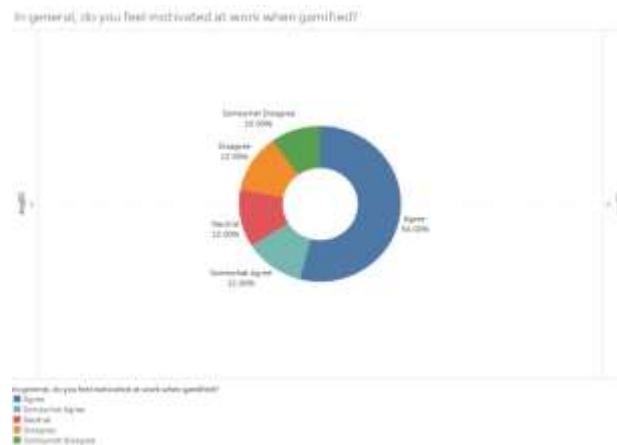


Figure 19: In general, do you feel motivated at work when gamified?

Majority of our sample set feels that gamification does help them keep motivated at work.

4.1 Descriptive Statistics

4.1.1 Objective 1:

Table 2: Descriptive Statistics that represent the effect of Factors used to determine the need for Gamification.

	<i>N</i>	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>Std Dev</i>
<b>Factors</b>	50	5	25	19.98	6.192458
<b>Valid N (List wise)</b>	50				

There are factors that make it necessary for gamification to be used in firms. From the table presented above, it is understood that certain factors arise on the basis of responses. Corresponding to questions that specifically cater to highlighting the major factors, we observe that the following are considered as important reasons or factors why it is necessary to implement gamification in the organisation.

- Marketing/Commercial Skills
- Information and Communication Technology
- Communication
- Managerial and business skills

- Project Planning and Management

#### 4.1.2 Objective 2:

**Table 3: Descriptive Statistics that represent the role of Gamification in Organizational Competitiveness**

	<i>N</i>	<i>Mean</i>	<i>Std Dev</i>	<i>Min</i>	<i>Max</i>
<b>Organization Competitiveness</b>	50	44.2	8.80167	28	65
<b>Valid N (List wise)</b>	50				

In this study, we have found that when the important factors are put to test, they help us in identifying whether or not the application and implementing of gamification has helped in improving organisational competitiveness.

We see that when the important factors are put to test, they help us in identifying whether or not the application and implementing of gamification has helped in improving organisational competitiveness.

## 5. Conclusion

In conclusion, the study on gamification and organizational competitiveness in select public organizations has revealed several important findings. The study found that gamification can be a powerful tool for organizations looking to increase employee engagement, motivation, and job satisfaction. By incorporating elements of game design into the workplace, organizations can create a more enjoyable and rewarding work environment, which can lead to increased productivity and performance.

The study also found that gamification can improve communication and collaboration among employees. By incorporating social and collaborative elements into gamification strategies, organizations can foster a sense of community and teamwork among employees, which can lead to increased cooperation and collaboration. Additionally, the study revealed that gamification can enhance overall organizational competitiveness by improving the quality of services and products provided by the organization.

However, the effectiveness of gamification depends on the specific implementation and the organization's culture. To ensure success, organizations should carefully consider their goals, target audience, and resources before implementing gamification strategies. Additionally, organizations should continuously evaluate and adjust their gamification strategies to ensure they are meeting their goals and achieving the desired outcomes.

This is because when we apply these factors, it can be seen that there are many organisations that have been able to improve their competitive position by implementing gamification. This shows how effective this method can be for improving organisational competitiveness.

In summary, the study has shown that gamification can be a valuable tool for organizations looking to increase employee engagement and motivation, improve communication and collaboration, and enhance overall organizational competitiveness. However, organizations should take a strategic and holistic approach to gamification to ensure it aligns with organizational goals and culture for maximum effectiveness. And hence we accept our hypothesis H0 which stated that Gamification does play a role in increasing organizational competitiveness.

### 5.1 Limitations Of The Study

- The scope of study would be restricted due to inadequate information about different sections and their biases, which involuntarily might prop up.
- The result of the study doesn't represent IOCL as a whole, rather IOCL, Jalandhar.
- Time availability would be limited to conduct an in-depth study.
- Being a PSU, under the Ministry of Petroleum & Natural Gas, there were restricted areas, following the "*Official Secret Act, 1923.*"

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