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# Managing the New Gamified World: How Gamification Changes Businesses

Mohammad Milad Ahmadi[1]
PhD Student in Systems Management, Imam Hossein University, Tehran, Iran

## Abstract

How can employees be driven to engage in desirable behaviors such as greater participation in achieving goals, collaboration, and knowledge sharing? How can new customers be encouraged to buy the company's products and services? How are brand loyalty, health-oriented behaviors, adherence to rules, and social participation strengthened? Gamification is an interdisciplinary approach that provides answers to all of these questions. Gamification is about designing with the help of game components to create a game-world experience for users in real-world situations. Many managers of for-profit corporations and the public sector now use gamification strategies to influence the behavior of their beneficiaries and gamifying commercial, industrial, and social environments. The present study, with its systematic review of theoretical literature and meta-analysis of related research, intends to acquaint researchers in the fields of management and economics with the capacities of gamification in improving the business. This begins with a description of the basics (such as theories, dynamics, and mechanics) and continues with a summary of gamification applications in Management Aspects and Business/ Institutional Areas. Management Aspects section includes Marketing, Brand Loyalty, Advertising, Education, Organizational Behavior, and Operations Management; and in Business/ Institutional Areas section the applications of gamification in the Healthcare, Tourism, Political Participation, and Military are mentioned.

**Keywords:** Gamification, Serious Games, Gamified World, Game Experience, Game of Work.

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[1] *Corresponding author's email: mmahmadi@ihu.ac.ir*

## Introduction

Despite the increasing technological advances along with the expansion and diversity of public and private enterprise activities, managing the human resource is still essential to maintaining organizational survival and competitive advantage, and resolving behavioral issues remains critical to managers' decision-making (Eke, 2018). The Motivation issue, regardless of industry, activity, size, and structure of organizations has always been one of the challenges in the field of organizational behavior: How to persuade employees to have a stronger connection to the organization's culture, strategy, and goals. This topic is still important even in the new age of organizational studies (Ochala, 2018).

Motivation describes how a person behaves toward a goal (Huczynski and Buchanan, 2007) and a successful manager (and leader) always provides the necessary incentives for his employees. Although many studies have been conducted on the motivation and identification of success and failure factors of motivational programs in various organizations around the world, business executives and management researchers have focused on an interdisciplinary field recently, that may create a dramatic change in motivational/ behavioral context. It has led to significant growth in all areas of marketing, customer loyalty, education, tourism, healthcare, policymaking, organizational behavior, systemic and strategic thinking, fundraising, and financial management so far (Stieglitz et al., 2017). "Gamification" has a technological -and in most cases virtual- origin, but it is developed based on theories of psychology, behavioral sciences, management, and economics.

The idea of adding game elements to various projects to make things more appealing, formed in dates before the invention of the "Gamification" term and this word was first coined in 2002 by Nick Pelling, British computer programmer and inventor (Marczewski, 2015). In fact, simulating serious activities to games can be considered as an old concept that has been receiving special attention from academia and R&D departments for about a decade. The central concept of gamification is to use natural motivators to stimulate individuals; and since one of the most attractive motivators for humans is fun and play, this point can be considered as the starting step of gamification.

The use of serious games has been common since the late twentieth century. Top commercial companies use gamification as a leverage technique to sell their goods and services, which makes consumer participation programs more attractive. According to recent statistics, revenues from educational gamifications in 2019, up to 60% increase employee engagement in organizational programs, and up to 50% improve employee productivity (Andre, 2019). Some researchers estimate that by 2021, the value of the global gamification market will increase to $11.9 billion (Lynkova, 2019). Thus, the organizational investment in the field of gamification will not be just a focus on a new technological approach; Rather, it will be a requirement for competitiveness in the international economic environment.

Numerous examples of gamification can be found in the business environment, but many managers may not yet be familiar with it and assume that the functions of gamification are limited to few topics. Besides, despite the growing desire of researchers

and business executives to learn more about gamification, there are still shortcomings in theoretical studies and explanations (Stieglitz et al., 2017).

The present study aims to use systematic review and meta-analysis methods to describe the dimensions and applications of gamification in the business ecosystem and to illustrate examples of its applications in various areas of management.

## Literature Review

### *Concepts and Theories*

D Contrary to its simple appearance, the concept of "game" is difficult to define, and its semantic and lexical differences with similar vocabulary such as "play" and "fun" have been studied from the perspective of various disciplines such as philosophy, sociology, art, psychology, and economics. The game can be defined as a voluntary and intentional activity that has rules, and the actors try to achieve a goal within the framework of these rules, while activities are accompanied by joy and pleasure. In fact, the fun element distinguishes the game from work (Mäyrä, 2008).

Games can be classified into several categories. Computer games, role-playings in theater and performing arts, sports competitions, board games, commercial-political games, and virtual simulations are a variety of games, each with its own subcategories (Savignac, 2016).

Although there are several definitions in the academic/ business environment for gamification, in one sentence, gamification is the use of the basic features of the game in a non-gaming platform. This is done to make things easier and more attractive, resulting in better achievement of goals (Deterding et al., 2011). Today, many services, applications, and computer software use gamification approaches, and the designs that are made in connection with end users must have gamified components (Rodrigues et al., 2019).

Beside classical game-related theories, such as Myerson's game theory (1991), a set of social psychology theories supports modern gamification frameworks (Stieglitz et al., 2017). One of these theories is the "Flow" theory, first proposed by Csikszentmihályi, and he himself has completed it over time. Flow states that the best mental state for a person to do a job occurs when the skill of the person and the challenge of the work are both at the highest possible level (Csikszentmihályi, 2008). In this particular state of mind, a person is so engrossed in what he is doing that he does not even feel the time and place around him. The task at hand should not be so difficult as to discourage, nor should it be so easy as to be tedious. This optimal state is the basis of positive psychology (Csikszentmihalyi and LeFevre, 1989). Csikszentmihályi describes the characteristics of Flow well, which is an ideal schema for the gamified work.

Another theory that has helped gamification professionals better understand this phenomenon is Galli and Fraternali's (2014) views on "Achievement Systems". According to this theory, in any gamified system, there is a set of audiences (players) for each of which there must be a set of appropriate rewards. Galli and Fraternali identify

eight different types of rewards in a complete achievement system: Instructors, Quests, Content Discovery achievements, Socializer achievements, Grinder achievements, Herculean Tasks, Trophies, and Loyalty. These items which are considered as some kind of gamification Dynamics will be explained further in the rest of this article.

Another related theory is Bartle's (1996) classification of video game players. Based on two axes of Acting-Interacting and Players-World identifies four types of players, each of which will behave differently in the system (Figure 1):

- Explorers: who like to search the dimensions and boundaries of the platform and interact with the world.
- Socializers: who need to communicate and associate with other players and interact with others.
- Achievers: who prefer to earn more points and go to higher levels. Act of these players is seen all over the game's world.
- Killers: who enjoy challenging and winning over others and their main action is on others.

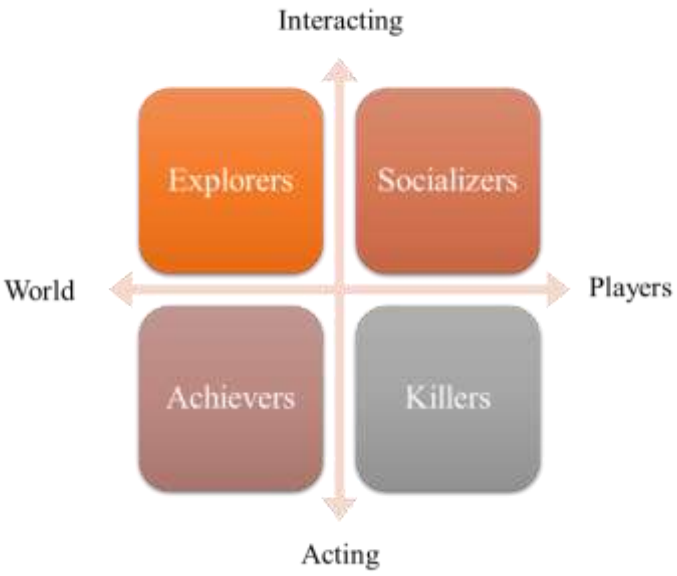


Figure 1. Classification of players (Bartle, 1996)

Many other researchers, including Kim and Ko (2013), have developed studies based on Barthel's classification; and nowadays there is a player categorization in all gamification models.

*Mechanics and Dynamics*

Game mechanics are the rules that govern the game and make it fun, challenging, and motivating. Mechanics are a set of tools and techniques that using each or all of them can

create an exciting user experience around the tasks and activities of a business or platform. These activities meet basic human needs and create an engaging experience that ultimately drives users to perform the desired actions (Deterding et al., 2011). In organizational terms, this behavior may include performing tasks more accurately, sharing tacit knowledge, timely presence at work, more purchases by customers, brand loyalty, and attracting financial resources from investors. The most important game mechanics used in business gamification are:

- Scores: Score can be given to the user as a reward in different situations and it is used to indicate the user's status.

- Levels: Shows different levels in a program; Such as the different belt colors in martial arts, or military ranks in the army. Users climb to higher levels based on their participation.

- Competitions and Victory Medals: Competitions give people a purpose and convey them the feeling that they have to work hard to achieve something. Cups, badges, and medals are visible signs that represent a certain stage.

- Virtual Goods: There should be a place to spend points that will motivate the user to collect more points. Virtual goods are a great tool for creativity, competition, and self-expression in the ecosystem where gamification takes place.

- Scoreboards: Ranking tables are used to track and display the desired activities and use competition between users to stimulate valuable behaviors (Herger, 2014).

Game dynamics are the reason for motivating users through game mechanics. Regardless of generation, race, culture, and gender, human beings have basic needs for reward, fame, success, competition, and altruism in social life. Using a proportionate set of game mechanics in an organization -or an application- can create an experience for the user that satisfies one or more of his psychological needs (Deterding et al., 2011). The main dynamics of gamification are:

- Rewards: Humans are motivated by reward; which is a valuable thing that is received in return for a particular action with the aim of repeating that action or behavior. A reward can be tangible or intangible.

- Position: Most people need status, social dignity, fame, prestige, attention, and ultimately self-esteem and respect from others. People need to participate in activities that earn respect.

- Success: Some people are motivated by the need to achieve something difficult, through a lot of effort to achieve goals and win. People who need success are looking for challenges and competitions that lead to more complex goals.

- Self-Expression: Many people need an opportunity to express their independence and authenticity; To show themselves unique and different from others. This is related to the human need to display a sense of identity and personality.

- Altruism: In gamification, giving a gift is a great mechanic for attracting new people and keeping old ones in the system. By giving gifts to friends, the credibility of the participants increases (Herger, 2014).

An important point in understanding the mechanics and dynamics is that these two main elements in designing serious games are communicated and connected with each other; So that the set of available mechanics are used to satisfy the intended dynamics. Table 1 is a popular framework that has been presented in many related studies to illustrate this point.

Table 1. Gamification Mechanics and Dynamics (Bunchball, 2010 and Stieglitz et al., 2017)

| | Human Desires (Game Dynamics) | | | | | |
|---|---|---|---|---|---|---|
| Game Mechanics | Reward | Status | Achievement | Self-Expression | Competition | Altruism |
| Points | ■ | ☐ | ☐ | | ☐ | ☐ |
| Levels | | ■ | ☐ | | ☐ | |
| Challenges | ☐ | ☐ | ■ | ☐ | ☐ | ☐ |
| Virtual Goods | ☐ | ☐ | ☐ | ■ | ☐ | |
| Leader Boards | | ☐ | ☐ | | ■ | ☐ |
| Gifting and Charity | | ☐ | ☐ | | ☐ | ■ |
| ■ Most Suitable Mechanic<br>☐ Suitable Mechanic | | | | | | |

*Cognitive Perspective*

Effective gamification changes players' feelings about the surrounding events. These feelings may be positive or negative. The emotional-cognitive aspects of gamification have been less studied in the research background. For example, Mullins and Sabherwal (2020) provide a model (see Figure 2) that studies the interactive processes of cognition in gamification.

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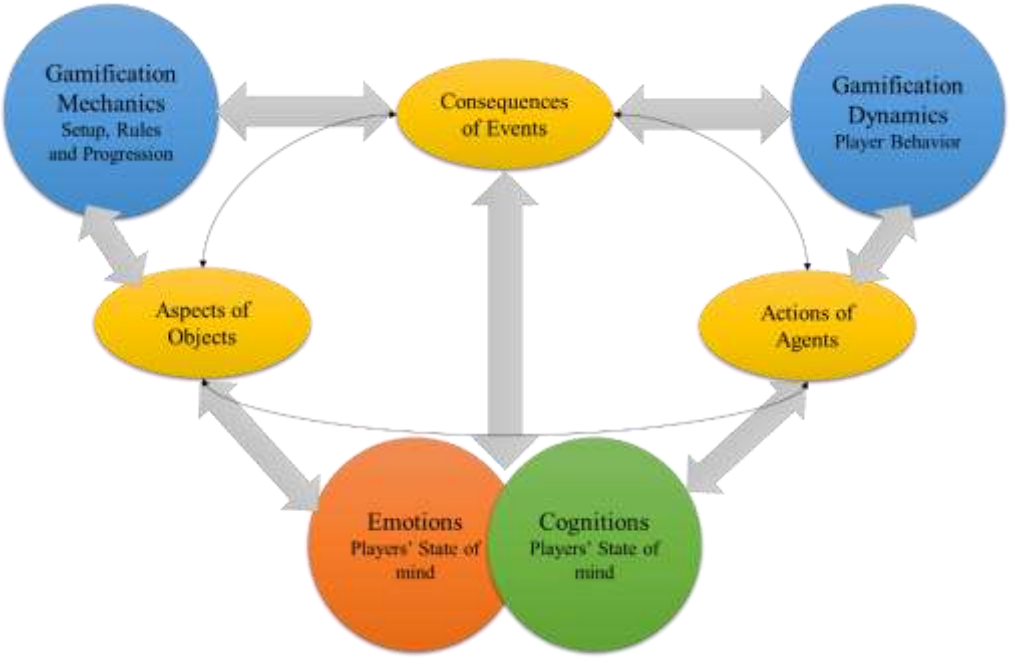


Figure 2. Cognitive/ emotional view of gamification (Mullins and Sabherwal, 2020) based on the Mechanics/ Dynamics/ Emotions (MDE) framework (Robson et al., 2015)

This model relates mechanics to emotional/ cognitive aspects through aspects of objects, and similarly relates emotions to dynamics through the action of agents. Mechanics and dynamics also interact with each other through the sequence of events. This model depicts how the elements of the game relate to emotions to achieve the desired results and how cognitive characteristics can relate to the gamification elements.

## Research Background

In the words of Juho Hamari (2019), one of the most well-known gamification experts, this word has now become an "umbrella term" that encompasses a wide range of specialized topics; Including new information technologies, serious games, training and learning through gaming, game psychology, and virtual simulations. Due to the proliferation of gamification applications in businesses, the multiplicity and variety of related research have been increasing in recent years. For instance, Baptista and Oliveira (2019) identified and reviewed 54 gamification studies conducted in more than 10 countries around the world.

Alsawaier (2019) presents a trend of gamification studies in a 16-year period according to which the interest of researchers and the desire of scientific journals has been more towards quantitative research in this field (see Figure 3).

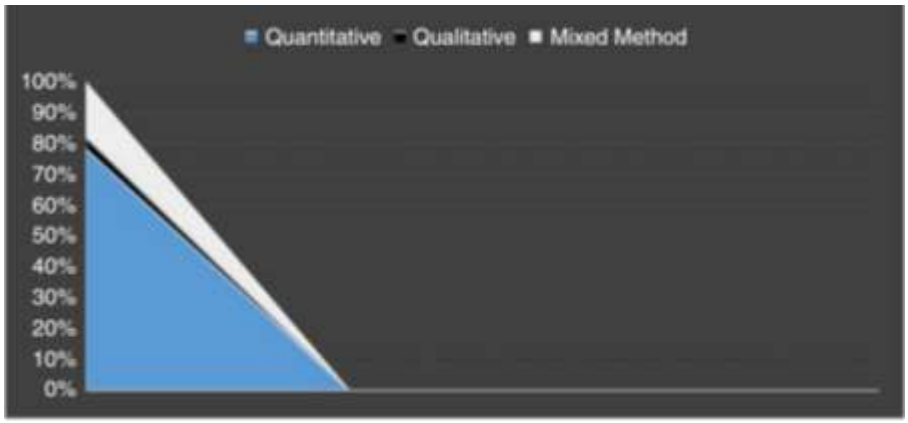


Figure 3. The relative percentage of research designs in the field of gamification from 2009 to 2015 (Alsawaier, 2019)

This trend makes clear the lack of sufficient qualitative research. Research that describes the basics and capabilities of gamification precisely and is not limited to correlation analysis. The present study pursues this primary purpose.

To represent the research background, the excerpt from the recent papers on the topic is summarized in the following table (Table 2); one section for theoretical studies (conceptual development) and one section for case studies (focusing on management and economics cases).

Table 2. Summary of research background

| Conceptual Development | | | | |
|---|---|---|---|---|
| No. | Source | Type | Methodological Features | Brief Description |
| 1 | Rodrigues et al., 2019 | Research Paper | Systematic Review, Lexical Analysis, Semantic Cognitive Mapping | Review relevant literature (Gamification in general) and extract more than 10 subjective themes |
| 2 | Zainuddin et al., 2020 | Research Paper | Systematic Review, Meta-Analysis, Thematic Map | Review a large number of studies on gamified education and provide comparative analysis for e-learning experts |
| 3 | Alsawaier et al., 2019 | Research Paper | Trend Analysis, Research Methodology | Methodological review of gamification research in 16 years |
| 4 | Baptista and Oliveira, 2019 | Research Paper | Meta-Study, Meta-Analysis | Meta-analysis of more than 50 papers in the field of gamification and identify the most important predictors of using gamification |
| 5 | Mullins and Sabherwal, 2020 | Research Paper | Cognitive Approach, Psychology View, Combining Models | Develop a gamification framework by cognitive dimensions |

| | | | | |
|---|---|---|---|---|
| 6 | Hulsey, 2019 | Book Chapter | Historical, Lexical and Theoretical Explanation | Define the basics and meanings of gamification |
| 7 | Hamari, 2019 | Encyclopedia Section | Executive Summary | Describe the horizons of gamification |
| 8 | Weinman, 2015 | Book Chapter | Conceptual Explanation | Explain the basic concepts of gamification |
| 9 | Herger, 2014 | Book | Conceptual and Practical Explanations | Explain the applications of gamification with reference to various examples |
| 10 | Klock et al., 2020 | Research Paper | Systematic Review, Literature Review, Meta-Analysis | Detailed description of the meta-analysis of related research on game mechanics, dynamics, methods, types, elements, etc. |
| Case Studies | | | | |
| No. | Source | Type | Methodological Features | Brief Description |
| 11 | Nasirzadeh and Fathian, 2020 | Research Paper | Correlation Analysis, Structural Equation Modeling | Study people's preferences for gamification elements by looking at demographic characteristics in the banking industry |
| 12 | Garbaya et al., 2019 | Research Paper | Experimental Design, Manipulation, Virtual Simulation, Touch Interface | Experimentation of gamified elements in a virtual production management simulator (assembly parts) |
| 13 | Silveira da Silva et al., 2019 | Research Paper | Qualitative Analysis, Unstructured interview, Theme Extraction | Identify gamification capacities in improving business networks |
| 14 | Hitchens and Tulloch, 2018 | Research Paper | Survey, Quantitative and Qualitative Questionnaire | Ask students about using gamification in classroom activities |
| 15 | Isabelle, 2020 | Research Paper | Virtual Platform, Class Competition, Scoreboard | Use an online entrepreneurship platform -which takes advantage of gamification dimensions- to teach and measure entrepreneurship management |
| 16 | Liu et al., 2017 | Research Paper | Experimental Design, Manipulation, Virtual Simulation, Smartphone Application | Simulation of job design in production line and study of efficiency and motivation in mobile gamified activities |
| 17 | Puleston, 2014 | Book Chapter | Literature Review, Design Methodology | A description of the various functions of gamification in marketing |
| 18 | Xi and Hamari, 2020 | Research Paper | Correlation Analysis, Structural Equation Modeling | Investigating the relationship between gamification and brand |

| | | | | |
|---|---|---|---|---|
| | | | | engagement in brand communities |
| 19 | Sardi et al., 2017 | Research Paper | Systematic Literature Review, Meta-Analysis, Methodological Review | A review of applied studies of gamification in the healthcare industry |
| 20 | Xu et al., 2017 | Research Paper | Literature Development, Background Review | Explain the benefits of gamification in the tourism industry |

A review of books and research papers in authoritative scientific sources reveals that gamification, previously considered an emerging phenomenon, is now becoming a widespread and well-known subject which has attracted the attention of researchers and managers from various industries and fields. The number of scientific papers on the gamification, especially in recent years, has been growing rapidly, and the study of gamification has been important as an interdisciplinary approach. These disciplines range from computer science and video-game designing to psychology, educational management, and marketing. Meta-analyzes and systematic reviews (such as this study) attempt to fill the gap between researchers' understanding of theoretical basics, and practical capacities of gamification.

## Methodology

In recent years, with the growth of research in various branches of science and the expansion of knowledge and information sources, researchers have found that it is almost impossible to master all aspects of a field and be up-to-date in that field constantly. Therefore, combined studies have become increasingly widespread- studies that express the extracts of papers systematically and scientifically.

If researchers search for relevant studies based on their previous perception of a topic, to find an answer or an explanation, then continue this search until they reach the desired sources and select the appropriate studies, then summarize the results and combining them with their own experiences to provide the final conclusion, a systematic review is done. This review should be based on a pre-set protocol (Uman, 2011).

Meta-analysis is the combination of data and results from a systematic review using statistical methods or qualitative approaches. Based on the results of the systematic review, which is a prerequisite for meta-analysis, a solution to the problem or an answer to the question is obtained (Glass, 1976).

Meta-Analysis is actually a type of combination method, not analysis; Because it implies the combination and integration of components, i.e. data, information, concepts, theories, etc., to form a thing (whole), while analysis often involves breaking down or crushing the whole to study its components. The meta-analysis can be seen as a revision of the research background, which is formed based on the accumulation notion of knowledge; The most important assumption of this notion is that knowledge is in a condensed state and researchers conduct their studies based on the works and findings of previous researchers. In other words, in this view, today's research is based on yesterday's research, and today's research is the basis of tomorrow's research (Adèr et al., 2008).

In this study, after a systematic review of the theoretical literature, a qualitative meta-analysis is presented to describe the applications of gamification in the business fields and to develop these innovative applications.

## Findings

The findings are the result of a review of more than 50 scientific papers and more than 20 reference books that describe the gamification applications in Management Aspects and Business/ Institutional Areas. In each case, examples of studies have been introduced. The model of the extracted themes can be seen in Figure 4.


Figure 4. Conceptual model of research findings

### *Management Aspects*

#### Gamification in Marketing

Gamification is known around the world as a powerful tool for interacting with customers. The nature of playing and possibly winning evokes positive emotions in people. In marketing, these positive emotions are used to sell products or services. Besides, this will likely allow the players to share this good feeling with their friends and add them to the customer base. Using gamification will persuade people to spend more time in a business store, website, or application, which will increase the probability of buying. There are many examples of marketing gamification using by great companies that encourage people to score points in a series of competitions and events, and then players can spend on points to buy goods and services. Gamification solutions have always been closely linked to digital marketing. Among the researches that describe the applications of gamification in marketing, we can mention the studies of Huotari and Hamari (2012) and Mitchell et al. (2017).

## Gamification in Brand Loyalty

For a company that has found its share of the market, brand competition is crucial; that the customers want to buy from their favorite brand again and repeat their buying behaviors. Gamification increases brand engagement. Gamified appeal components (such as attractive images, interactive ads, customer club programs) encourages customers to continue receiving services from source company. Saving a part of the customers' costs as points and offering more points by running plans such as surveys are examples of increasing brand loyalty through gamification. According to statistics, gamification increases brand loyalty by more than 22% (Davis, 2020). Kim and Ahn (2017) have elaborated more on Gamified loyalty programs.

## Gamification in Advertising

Advertising design is not separate from marketing and brand engagement programs. The era of long TV commercials or static signs on highways is over. In the age of digital marketing, interactive advertising may have a necessary impact on the audience. Dynamic advertising for various products has already become popular on many social networks and new web technologies (such as HTML5). Mini-games in mobile applications or web banners are simple examples of Gamified advertising. Terlutter and Capella (2013) provide a framework (Figure 5) for analyzing advertising in digital games:

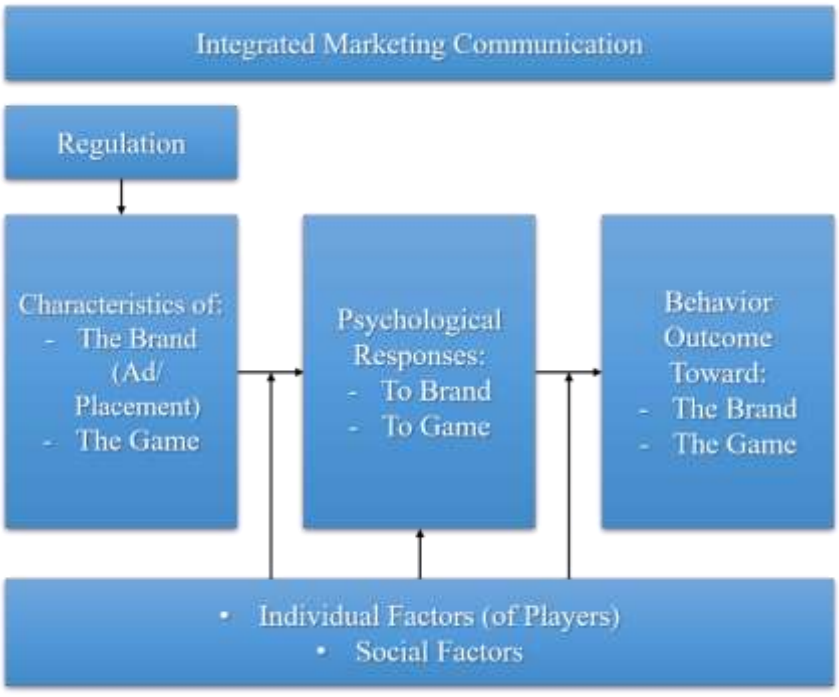


Figure 5. Gamification in Advertising (Terlutter and Capella, 2013)

## Gamification in Education

Perhaps the most common use of gamification is in teaching and learning. The educational use of gamification starts in schools (like mathematics and vocabulary

games), and extend to universities and academic disciplines, as well as organizational training programs. Gamification helps professors and instructors to make their educational content more engaging and attractive. It also encourages learners to focus better, practice more, and participate in lessons. It's always better to solve a word puzzle, score points in a close competition, and perform a team project than reading a simple long text and that's why educating content for children (and now adults) always is mixed with game layers. Given that educational design in most cases includes a time period and a physical area and a set of specific components and features, it is more possible to simulate a game scene in it. The advent of information technology and the evolution of e-learning are increasing these capacities even more. Currently, many software and mobile applications have been developed based on gamification to teach mathematics, sciences, art, international languages, economics, law, cooking, etc. Similarly, many simulations and games have been designed to train and practice production management, finance, factory management, human resource management, stock market, entrepreneurship, accounting, and so on, both for academic and commercial use. Zainuddin et al. (2020) have provided a comprehensive model of the gamified education (see Figure 6).

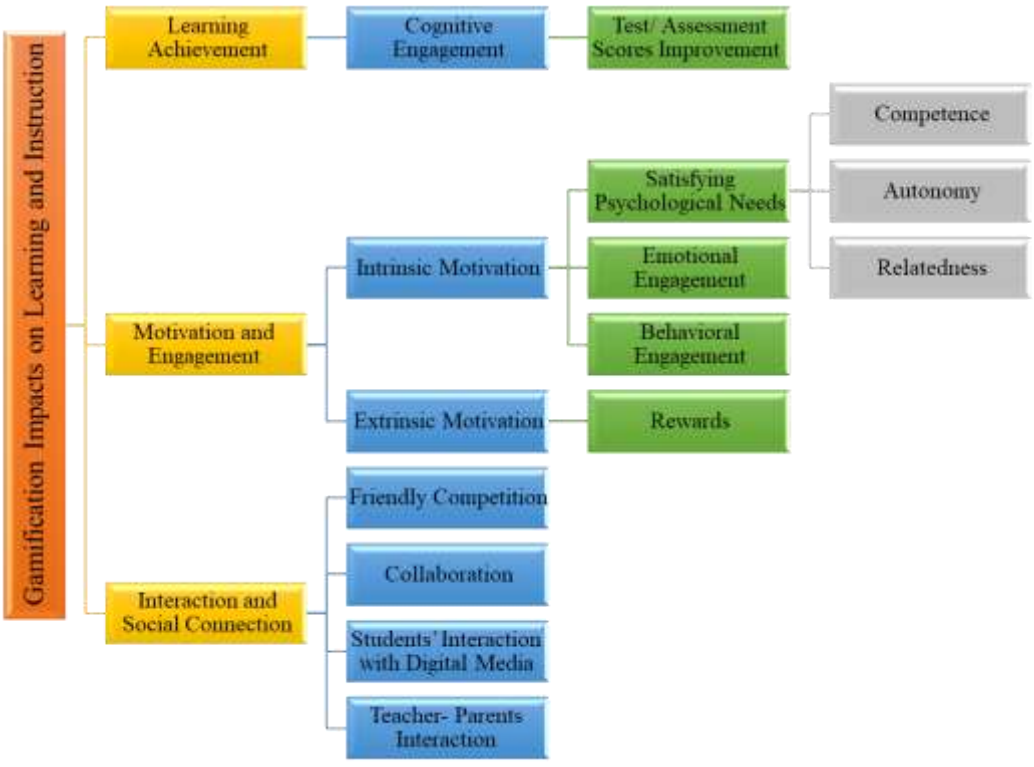


Figure 6. The thematic model of gamification in education (Zainuddin et al., 2020)

## Gamification in Organizational Behavior

The main consequence of gamification is behavioral change. This is important for human resource managers. In a situation where classical methods of internal and external motivation are not effective, gamification helps behavioral specialists. With the proper use of game dynamics and mechanics at the group and organizational level, many desirable changes in behavioral issues can be achieved. Developing teamwork, effectively

sharing tacit knowledge, resolving interpersonal conflicts, effectively managing change, and better welcoming educational programs and empowerment plans are topics that gamification can accelerate. In fact, gamification helps to bring about lasting behavioral changes in the internal environment of the organization (see Dulskaia et al. (2017), Kiselicki et al. (2018), and Nair and Mathew (2019)).

### Gamification in Operations Management

Although the tasks of manufacturing and assembly seem simple in the single level, but to optimize production lines and increase quality, speed, and accuracy in the plant, production personnel must have a sufficient understanding of resource constraints, input and output rates, bottlenecks, and system dynamics. Production/operation simulations depict the production process and its macro-system in a virtual space and they allow supervisors to assess workers' intellectual skills and empower them. Field evidence confirms the positive effect of gamification on improving production management (Liu et al., 2017 and Garbaya et al., 2019).

## *Business/ Institutional Areas*

### Gamification in Tourism

The tourism industry consists of various businesses such as hotel management, aviation, railways, intercity transportation, restaurants, exchange offices, etc. Gamification also promotes the tourism industry in different ways. Some mobile apps introduce historical and recreational tourism destinations and give users points while visiting them. E-tourism, using virtual reality technology, recreates the tourism experience, which will increase the likelihood of traveling to cities and regions. Increasing brand engagement, repetition of visits, and creating more pleasure for tourists are among the important benefits that gamification provides for the tourism industry (Xu et al., 2017 and Skinner et al., 2018).

### Gamification in Healthcare

In recent years, due to the changes in human lifestyle, return to health-oriented behaviors have become the concern of many communities, governments, and health professionals. Fortunately, in this regard, the development of information technologies such as mobile sport applications and the Internet of Things has helped people and corporations. Meanwhile, gamification strategies provide the incentive to develop health-oriented behaviors. There are now a variety of apps where people can record their food calories, the number of steps taken on a daily walk, the amount of exercise they do, and their physiological characteristics such as age, height, and weight. Gamification solutions encourage people to practice and repeat health-oriented behaviors; It also persuade them to record data through smart gadgets and sensors, by setting up mechanics such as competitions, ranks, and comparative and interpersonal records. In addition to individual applications, gamification is used in organizational contexts to improve employee health. Some companies in the healthcare industry have also turned to gamified solutions for healthcare monitoring, e-health improvement, and to make organizational healthcare

information systems user-friendly. King et al. (2013) and Kutty (2020) are examples of gamification studies in healthcare.

### Gamification in Political Participation

Researchers state that in the last five years, gamification has entered areas that were not previously expected. This trend has been accompanied by the launch of US political campaigns. Zichermann (a well-known expert in the field of gamification) believes that gamification will be more attractive in the political and civil institutions in the future. In recent presidential elections, online games (both as an application and as a shared platform on social media) have been used to increase voters' engagement (Angelovska, 2019). Clinton's "2016 Hillary" program, designed to run an election campaign office, is an example of political gamification (Bossetta, 2018). Gamification dynamics can increase people's social, civic, and political participation specially in governance issues. As a research example, we can refer to Mahnič (2014) study.

### Gamification in Military

For many years, the game has been an important tool for the armies and military forces of different countries around the world, which has been used for training, analysis, and preparation. Since 5,000 years ago, war models have been simulated using colored stones on a single screen. There are now highly advanced computer simulation systems that allow users to gain virtual experience based on real battle events. Military simulation games have evolved over time. Strategic game tables remain in military colleges and academies today but are gradually being replaced by computer games. Advanced armies have adopted serious game-based training for numerous reasons. These reasons include lower costs compared to large simulators or real practice, access to military talents who grow with technology, increase learning motivation, and the ability to achieve competitive advantage in the battlefield through innovative technologies (Robertson, 2014 and Lowman, 2016).

## Conclusion

Gamification is one of the subsets of Behavioral Design, which has received special focus in recent years in academia and the business environment. Gamification seeks to blur the hypothetical boundaries that separate Game-world and normal life; In this sense, Gamification is described as a form of pervasive game (Mäyrä, 2008). Even beyond that, Palmer and Petrosky (2016) have emphasized that gamification is by no means "playing"; Rather, it is about institutionalizing playful thinking or game mechanics in daily activities such as morning exercise, shopping, dieting, or working with a personal computer, to make such an experience more engaging, enjoyable, and productive. Gamification directly uses game elements within non-game contexts to make the desired actions or behaviors to be performed (Vanolo, 2018). Due to its flexible and creative nature, gamification has great potential for transformation and improvement of management areas and businesses. By motivating individuals to do the right thing, employees, customers, and other beneficiaries align with the organization's goals. Generally, the most important benefits of gamification are:

- Upgrading and improving work experience
- Quick feedback (from the system and designers/ managers)
- Create a better interaction and learning environment
- Stimulate stable and extensive behavioral changes
- Various applications in different organizational activities
- Create new capacities
- Increase satisfaction, loyalty, and effectiveness

Now almost all the predictions of research institutes regarding gamification -such as Gartner (Burke, 2012)- have been realized and this interdisciplinary approach has created a new paradigm in business and institutional activities. Today, many companies and social institutions have gamified a part of their activities and communicate effectively with their target community through this new approach.

Finally, researchers in the fields of management and economics are suggested to:

- Study the role of gamification in other management issues such as finance, maintenance, accounting and auditing, industrial/ organizational psychology, and the adoption of new technologies.
- According to their expertise and interest, measure the effect of gamification dimensions on performance indicators.

It is also recommended to executives (both in the private and public sector):

- Add gamification to their available solutions to solve organizational challenges (whether internal, near, or far environment).
- Keep up with the world's leading companies in developing this new approach.

Gamification experts must remember that this concept is not just a computer (technological) design and to use it effectively, it is necessary to understand all its psychological, social, aesthetic, and technical aspects.

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