# Gamification for business development

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*Abstract* — **Gamification changes the rules of engagement for education, business management and as a result-changes the behavior of customers. As [17], [7], [18], [6], [8] predicts that by the 2020, more than half of Global 1000 organizations will use gamification as the primary mechanism to transform their business operations. The scientific problem is how to motivate employees and customers by involving gamification principles to increase operational efficiency. The aim of this article - to analyze gamification models impact on employers and customers behavior, work and motivation in order to increase business operational efficiency. The research methods are comparative literature analysis, case study analysis of financial services institution Šiaulių bankas employee motivation and customers loyalty system. As a result there were indicated the main factors that increases the efficiency and encourages development process of the service companies in Lithuania.**

*Keywords — gamicifation, motivation, business operation efficiency.*

## I. INTRODUCTION

This paper is concentrated on gamification, which is still a new way of managing motivation and facilitating education process in different fields of business. Meanwhile, organizations around the world are looking for ways to facilitate customer commitment and loyalty to help employees motivate them to achieve better results and more efficiently work [6]. Gaming techniques can help stimulate motivation in different environments, encourage activities to engage in activities and trigger actions that are supposed to make offensive activities more productive.[5]

However, gamification is used not only to increase people's satisfaction but also to improve our performance. In addition, it has been determined that games are not only entertainment but also educational tools. The research report published by the European Union [17] argues that games develop creativity, strategic and innovative thinking, teach collaboration, and potentially harmful results can only be seen in children who play violent and behavioral destructive games. It is therefore thought that the introduction of gaming systems in daily activities can be trained and enhanced by adult behavior and thinking processes.[23]

The scientific problem of this paper - how to motivate employees by involving gamification principles to increase operational efficiency. In this paper author focus in analysis of gamification process and impact on employers' behavior in order to business operational efficiency gamification for business operation efficiency management by investigating case study from Lithuanian companies.

The rest of this paper is organized: Section 2 gives an overview of scientists and researchers definitions. Section 3 and 4 present research methodology and empirical results. The re-search methods used in the article comparative literature analysis and case study analysis of Šiaulių bankas employee motivation system Finally, Section 5 gives summary of the research and propose in developing of gamification models..

## II. GAMIFICATION ESSENCE

### A. Definition of gamification

Concept of gamification is quite new and have been studied by researches [4], [5] [17], [7], [18], [6], [8].

There is not one widely used definition of gamification. Authors [17] says that gamification is the modeling of human behavior that organizations would like to encourage in their employees or clients. Authors [7] says that gamification seeks to bring satisfaction aspects from the game (fun, action and challenge to the game) into real life of business [6]. Author [18] adds that gamification is the use of video game elements outside the gaming environment to improve user experience and engagement. Scientists [21] defined the essence of the gamification is the introduction of various tools which would help to increase the people's natural demands for competition, achievements, status, self-expression and altruism. During the gamification, a person is rewarded only if he performs the tasks presented. Most often, it is said [10]. That gamification is used to solve problems, to regulate motivation, to reduce stress, to maintain the activity of participants' interest. [8] Declares that gamification is not a game, it's a game strategy used to increase the effectiveness of various systems, such as health, business, education, and marketing. Gamification typically makes use of the competition instinct possessed by most people to motivate and encourage productive behaviors (and, as a result, discourage 'unproductive' ones). However, gamification has been used by organizations seeking to encourage the creation of online communities, it has also been applied to situations beyond the scope of basic definition of gamification, including encouraging people to perform administrative tasks, exercise, or visit retailers. [3], [20].

Gamification does not aim to create a game, but to give users the experience of the game, thus making the various activities more effective, as game intrigue more engages people into action [8]. The purpose of the technique of gamification is not to create new goals for a person, but to increase the natural desires and desires of a person, and make them even more attractive. The most explicit explanation of

the term for gamification, says that gamification is the transfer of the thinking structures used in games to real life [7].

To conclude that listed definitions of gamification gives priority for motivation and encouragement of people to perform certain tasks in more effective way by giving them experience of the game.

### B. Gamification modeling and elements

The most important aspect of developing the gamification is the correct modeling of games, for example, before designing it is always necessary to consider the company's values, whether they are suitable for future gamification, and also to consider the culture of our company, which prizes are appropriate and which can really motivate the users of the signing-up, what actions should be promoted to suppress. Gamification a heterogeneous system with its own structure, the strategy of gamification must have several components: a goal or several goals, a structure, clear rules, real world results and a system. It is possible, but not al-ways necessary, to pay attention to the types of players involved in the conduct of the game [14].

To understand gamification it is necessary to understand the core concepts of games. There are three basic parts in most games: goal-focused activity, reward mechanisms, and progress tracking. Each of these is briefly described below; however, it is clear from the broad labels that there is a significant correlation between the design of games and of learning activities.

Purpose. First and foremost, it is most important to set a clear purpose for gamification, on the basis of which it will be modeled. [16] gives him a simple example, if he creates a library for educational purposes, then we should first of all raise the question of what we specifically want to achieve with the gamification. There may be a lot of variations: simply promoting library services or events, advertising; implementation of wider application of spectrum usage; teaching students why plagiarism is not acceptable; successful introduction of innovations, etc., the author pointed out that all of these goals are related in one way or another, but are not identical; there-fore, it would be useful to refine the objective of the most specific and clear gamification.

Target group. The second, as well as the important component of the gamification of an outline, is to determine which group will be dedicated to allegory.

Educational content. In the gamification development process, the question should be raised as to whether it is the best choice to achieve the desired results, since it is possible that the implementation of the strategy of gamification may result in deterioration rather than improvement as expected.

Types of players. Authors [1] used the Multi-User Dungeon (MUD) for the classification and distinguish four types of players:

- Achievers, the most important part of them in games is collecting points, raising levels, etc.;

- Explorers, they are curious about what's not yet completely clear, what else can be revealed, and that "searchers" can do it;

- Socializers', it is important for them to have teamwork with other people in the game, communication;

- Killers, whose motivation to play increases the ability to kill or harm others.

Every person as a player assigns himself to one or another type.

A.Marzcewski (cit.Kalinauskas, 2014) distinguished 5 player types: [12]

- Players are motivated by external awards;

- Socializers' are motivated to connect with others;

- Independent (Free Spirit) motivates them to be given autonomy;

- Achievers are motivated by the acquired professionalism;

- Philanthropist is motivated by the goal pursued.

According to both authors, usually a person has several types of features expressed at different levels of gamification. So, by simulating the gamification, it would be useful to consider the general tendency of the target group to have attributes of one or another type of group of players. These types of player types are still being refined and refined, and a number of suggestions have yet been made by [6] on how these classifications can be changed, but the changes are rather small, one or the other attached, but the common features remain the same as in the first distributions. This classification is useful when singing is de-voted to some kind of gamification, and there-fore the spellbinding is adapted to the existing human features is more effective.

The results of study on social networking Facebook gamers done by [25] has shown that younger people (under 32 years of age) play in order to speed up time and avoid boredom when Meanwhile, an older group of people (aged 32 and over) is playing the games online on the Facebook network to help others (games) and get help from others themselves. Another study by [13], which presented the game for the second year students of medicine, with the help of which they were preparing for an interim. The results showed that the students improved the result more poorly for learners than those who usually receive high marks. Researchers believe that this result was influenced by the poor motivation of students, as the game triggered it and the students wrote colloquium better than usual, and the intrinsic motivation of "better" students was high before the game, so the game did not influence it. It is also possible that people are particularly involved in gamification for one purpose or another can overlook other aspects of behavior and in some situations behave in-adequately. An excellent example of this is the study by BMW carmaker [9], which was designed to encourage and teach drivers how to reduce fuel consumption while driving, giving them empirical knowledge of how to drive more efficiently. The goal of the program was to reduce

the fuel consumption of drivers by implementing the newly created gadget, and to make the study more attractive and more similar to the game, they compared the results of the participants.

But in the long run, the study turned out to be unthinkable for developers, participants began to behave highly competitively and solely to travel more efficiently, they often disregarded the rules of the road safety, for example, they passed a red traffic light instead of stop-ping, thus entering a car accident and injuring themselves or causing damage to other road users.

Gamification around the world is a fairly new technique designed to engage people in activities, increase their motivation and generally influence their behavior, but they also appear to criticize this technique. One of the most commonly criticized is the connection between inner motivation and external stimuli. Motivation is divided into two categories: internal and external. When a person acts by stimulating external motivation, the purpose of his activity is something, regardless of the action itself, it may be awards, honors, prizes, money, and the like. When a person acts on the basis of internal motivation, the purpose of his activity is the action itself. Therefore, critics raise the question of whether a person works or acts as a stimulant of internal motivation (because he wants it), while during his education he is also driven outwardly by the experience of the game (if not necessary), or his inner motivation, which in the long run to the outside and the person who has acted on the internal stimulus will only act on the external.

## III. Gamification and business efficiency

### A. Gamification and motivation

Gamification involves understanding and influencing human behavior, modifying it, modeling its behavior in the direction desired by the developer. Consequently, many modern organizations are determined to play their activities in order to have a greater influence on managing the behavior of their clients or employees, and also because the current generation of young employees has grown up in a virtual world, which is an integral part of the game, and this can be one way for employers in full to take advantage of the skills and potential of young workers. Many scholars believe that over 50% of all organizations will be able to take ad-vantage of cheating strategies at an early stage (more precisely, over the next five years) [6].

It has been noticed that the positive outcomes of the gamification include the following areas [6]:

- Motivation and productivity;

- Inclination rate;

- Loyalty.

As we discussed, the technique of gamification in an organization increases motivation. Greater motivation positively correlates with productivity [3].

With the goal that the organization's activities and gamification system effectively influence the processes of the organization, it is essential that the goals of the developers (or those who are in charge of it) and the participants involved in it are aligned and that all parties involved in the activity act together [11].

Involvement of actors in the gamification can contribute to more effective organization, and engagement itself will not only mean that productive workers can achieve higher results, but at the same time testify to the psychological health of employees, because it was found that employees who were more be-came more involved in the sense and psychological security of their work [24].

It is said that people are constantly educating an environment in which it is impossible to feel perfect without motives, and therefore motivation is one of the few factors that determine the performance and the person's performance: the abilities, resources and conditions under which this is done. A person can be very motivated to pursue a career, but this motivation must be complemented by his abilities, opportunities for improvement and other conditions. Loyalty as a result is not a steady state but a changing phenomenon [15].

According to some authors, switching to the activities of a participating company can be complicated due to the company's own business or business sphere, which at first sight cannot be screened, but the main thing to keep in mind the basic idea of ante line is to create a gaming environment in which people feel pleasure and enjoy the process and this should be done without offering money, because in this case people will enjoy the activity due to the external stimuli they receive. It's important to remember that creating a new system should not hide the old ones, simply present the new one as more interesting, practical, and another very important aspect of creating a sketch, not seeing small or non-gaming activities. In Denmark, a study was conducted [19], in which 90 trainees participated, which were divided into three groups: the first one had to perform the tasks in a rudimentary manner; in the second, only some aspects of the game's technical details were present, and the third one, control, worked as usual. The results of the research showed that the introduction of incomplete game technicians into the work environment has increased the efficiency and satisfaction of the activities performed. The researchers concluded that the design of the game allows you to attract, attract more people and motivate more people than usual. Another study by the same authors [19], attended by BigDeal, operating in the United States and Canada. The study involved 233 sales staff, they were divided into 3 groups, which worked on different floors of the company's building. The first group work was completely screened, and the other two groups were named controllers, one of them worked under the same conditions as usual and the other, the researchers named an alternative control group, worked un-der the same conditions, only on their floor were equipped large screens with the results of each employee's sales, which were also available to the entire company, but in this case they were displayed in public on big screens and are always visible to each of those high-level employees (this group was selected to verify that there was no Hautorn effect

in the study, i.e. the reactions of the subjects when they know that they are included in the research, and therefore change their behavior to the desired one). In the game division, a basketball game based game was introduced: employees collected points every day (as basketball players in the competition), and at the end of the working hours they were sent an e-mail with the final day's results and winners, during the day they, like the alter-native control group, had big screens who posted intermediate results during the day. The simulation of this game has been based on a large number of sports games that have attractive elements that can be used for rebuking; it is teamwork, an interactive scoreboard, and competition. The study was conducted for 18 days. The main measure of activity was the number of transactions signed. The data obtained during the 18-day study is compared to the results of 18 normal working days prior to divorce. The results of the research showed that the consent to the game leads to the success of the spin-offs at work, therefore, this research not only explored the possibilities of self-promotion to improve the results of work, but also the attitude of employees towards such changes at work. Researchers have found out not only how the sales volume has improved in the company, but also what the attitude towards the use of game technology has to be by the people involved in the study, how much time they spend playing non-work environment. To find out these factors are the survey used. The results of the re-search confirmed the hypothesis that the attitude to spoofing has an impact on the positive attitude to the work of the lecture; Another hypothesis about the link between malware and performance was rejected, but researchers still feel that there is a negative effect on productivity if the employee does not agree with the game; The hypothesis is that the more people spend time playing leisure time, the more they tend to model their work according to game techniques; The last hypothesis about the positive changes that have been made by the cheating that may lead to the consent (willingness) to get out of work for confirmation or the lack of information was rejected, so the authors are preparing other tests to test her.

### B. Methodology of the research

The research methodology presented in this article is based on three perspectives, which analyzes organizational-level cooperation relation-ships. These include: (1) Porter's Five Forces Model [27], (2), Organization and its Partners Model [24], and (3) Model of the Enterprise and it's interest groups Network. Further the critical analysis of different approaches will be released.

Porter's Five Forces Model [27], which is based on dominance in the competitive market, helps to justify the structure of the company's relationship with the external environment. Based on this theory, the main competitive forces on the market are market, covering the market, the influence of suppliers and buyers, and the entry of new competitors, threats and the impact of potential goods / services as substitutes. This approach serves as a basis for understanding the main external forces that influence the company's activities. On the other hand, this theory is more deterministic and does not reflect other aspects of the analysis of the external environment related to the development of cooperative and cooperative relations.

Rugman and D'Cruz pro-posed a "Flagship" model and its network of partners to justify the importance of collaborative links and organizations' inclination to net-working [24]. Most often, it is a strong multinational corporation that forms its own business system. This "five-partner" model is being developed based on a global strategy, since the corporation itself is multinational and the economic activity is organized through the cooperation of five partners in a specific business network.

By analyzing the business systems of the organization, the Rugman and D'Cruz model [24] helps to uncover the role of the coordinating organization and enables the intimate partners to know more about it. Relationships between the main suppliers and the leader in the organization are based on cooperation, knowledge sharing, resources and responsibilities. However, other system partners have very limited strategic autonomy. System loyalty is the highest value expected of a system partner.

The theory of the company and related network partners which justifies the importance of communications in the development of activities under modern conditions, attaches great importance to the design of an organization's business system analysis model. The model distinguishes eight interest groups with which the company inter-acts with the market. It is argued that the main players in the industry are suppliers and customers (vertical communications); direct and indirect actors operating on a horizontal level (companies producing similar goods or services); Outside industries - supporting or complementing branches. A major role is played by the general context, which includes categories such as socio-cultural actors (media tools, communities, charities, religious organizations, etc.); economic agents; political parties - political parties (political parties, certain interest groups, various regulators and international institutions) and technological participants (many organizations that are active in the field of technological development and the development of new knowledge and technologies - universities, research institutes, patent offices, government agencies and etc.).

In summarizing, by evaluation the ad-vantages and disadvantages of gamification- the first Porters Five forces Model where chosen to analyze further the case of Šiaulių bankas case study of gamification.

## IV. RESULTS

Description of Šiaulių bankas employees' remuneration programme during 2016-2017.

Everybody could participate in the Šiaulių bankas issued motivational game voluntarily.

Game concept: given a variety of services provided by the employees additional to the everyday services for the business and individual customers. Employees of back-office were nominated by the relationship with partners and suppliers.

Goal: Motivation for Monthly Sale Challenge

Levels: basic and upper-level.

Obstacles: additional services that should be valued.

Groups of players: commands were created by divisions of the team.

Reward: Apples, which can be exchanged to various prizes,

Badge: announced leader board (week, month)

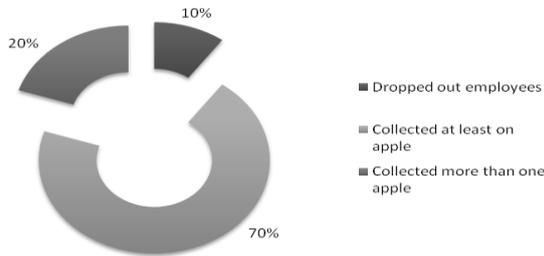Results of gamification in Šiauliu bankas:



Fig. 1. Results of gamification compaign.

The campaign received a lot of people interest - all the promotional materials on the game and apples were distributed (see Fig.1):

- The employees of Šiaulių bankas and its subsidiaries themselves were interested in the ongoing campaign, actively communicated with the clients by offering the different services of the bank;

- The employees of Šiaulių bankas were interested in long-run motivational programme and actively collected apples. Regarding results: 10% of employees dropped out, saying they had more serious work to do; 70% employees collected at least one apple, 20% were very active, collected more than one apple. Apple bank interface were visited very frequent by observing the leaders on the leader board. Gamification campaign was very interesting for the employees has challenged the questions, so the visitors were directed to the site of Šiaulių bankas and its subsidiaries. Finally, 89% of the visitors of were actively interested in the proposal and assured that they would seriously consider it under the conditions of interest.

## V. CONCLUSION

Gamification, which has only recently become popular as a technique for generating motivation, and its proponents say a lot about its positive impact on organizations and the business world, many scientists who are interested in this technique say that in the future they will be increasingly used for positive behavioral change, but at the same time recognizes that this is not a panacea and can bring many unforeseen negative effects if used or created irresponsibly [22].

This is supported by the forecast that gamification is one of the fastest-growing technology industries in the world. It is forecasted that by 2015 with it will be bound about 30% the whole world of science and work.

Many studies show that gamification is the right technique to ensure loyalty, productivity, well-being and satisfaction. On the other hand, there are still questions that need to be answered in the near future: how to measure and the value of the gamification activities for practitioners and organizations alike.

Today gamification is becoming more and more integrated into everyday life. Screen-play, t. y the use of game elements (icons, point systems, emotions, progress, cooperation) in the context of the game, the improvement of processes during playful experiences in helping the user to create value.

In recent years, special attention has been paid to gamification in organizations, as its benefits to the attractiveness of business processes, to motivate employees and users have been noticed. Studies have shown that the correct application of play elements can increase the motivation by as much as 60%. The essence of the organization is a continuous and continuous improvement of the process adapted to the organization, taking into account its aspirations, culture and the specifics of its activities. The application of Points, Achievement Badges and Leaderboards, known as PBLs (points, badges, leaderboards), is not yet a gaming solution. Behavioral change is created by a constant feed-back, incorporating history, challenging but challenging tasks and healthy competition.

Modern training is increasingly moving towards non-traditional forms that promote the acquisition of the necessary knowledge and skills with-in a relatively short period of time, and to do so by enabling the participants to enjoy the process. According to research, through the game and personal experience, up to 90% of knowledge and skills are absorbed, while traditional training can boast only up to 50% of mastering. An important aspect of how our gaming solutions are different from frequent stereotypical perceptions that all of these are based only on an online or computerized environment - our games are live, real-time and using realistic tangible tools. It helps to significantly increase participants' engagement and encourage "live communication".

Benefits for the organization:

- It offers players an immersive experience. When people experience virtual scripts "first hand," they learn to better link their material with their experiences.

- Highlights specific goals that help players focus on the process.

- Requires players to make frequent, important decisions. People learn best through trials and failures. Even mistakes are meaningful when players learn to correct them.

- Integrates the skill level of each player and enables others to train.

- Incorporates social goals to create an effective decision-making system.

- Excitement helps to concentrate, collaborate and work in a tea

In summarizing, gamification can be a great tool for motivating and boosting performance, but remember that gamification is not a game and should be conducted responsibly, taking into account all the necessary aspects, with the expertise and advice of experienced gaming experts.

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