

# Use of gamification in the process of selection of candidates for the position in the opinion of young adults in Poland

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## Abstract

The article focuses on the potential of the use of gamification in the selection process, willingness to participate in this form of recruitment among young people (20–25 years of age) entering the labour market and the factors differentiating their willingness. Due to the lack of information on that subject on the Polish study field, this research has a pilot character. The data collected among 100 students who are about to enter the labour market. This group is significant because of the nature of the examined selection method – in theory it is young people – born after year 90 and making full use of information technology every day – they are to become the target group of this form of recruitment. They were subjected to statistical analysis with the use of the Chi-square test and the Pearson correlation coefficient. Research results confirmed the potential of this method of selection. According to the theoretical assumptions, gamification has been positively assessed by respondents. The vast majority of respondents expressed willingness to participate in recruitment with the help of gamification. The analysis has not revealed any significant differences between the adopted independent variables and the willingness to take part in this form of recruitment declared by respondents.

**Paper type:** research article

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## Introduction

The contemporary employer has a range of available forms of selection of candidates for the position. These are both traditional and modern forms and they are becoming increasingly popular also in the Polish environment of recruiters. These include, among others: Assessment Center (AC), e-recruitment and gamification. It should be noted that the AC, using game elements as a tool in the selection process, can be situated as part of gamification; while gamification available as an on-line game – as a derivative of e-recruitment. If, therefore, one takes into account the range and diversity the given forms offer, gamification most fully satisfies the assumptions of innovation.

The literature provides many positive forecasts for the use of gamification and proposes its correct use. However, it is very difficult to find research on the popularity of the use of game elements in selecting candidates for a job among only those applying for the position. This is very important especially in the context of people just entering the job market because they are an important target group for this method. The literature review on the recruitment and selection of employees shows little interest in analyzing these issues by those being recruited. This aspect is, however, extremely important for further development of forms of recruitment and selection. According to theoretical assumptions, young people just entering the market expect a different way of assessing their qualifications and have different demands concerning the position of the representatives of older generations. It can be proved by the theories on the impact of information technology on all areas of life of an average person, and theories about the nature and expectations of people known as Generation Z and Y (Millenials).

Therefore, this article is an attempt to get an answer to the question about the interest of young adults (20–25 years) in this form of recruitment and verify if the adopted socio-demographic factors differentiate the assessment of gamification among this group. Due to the qualitative character of the variables adopted in the study, the results were statistically analyzed using the Chi-square statistical test and the Pearson correlation coefficient.

### 1. Gamification – essence and conditions of use in selected areas of management

The person who is considered to be the creator of term gamification is game designer Pelling, who used it in 2002 to describe the use of game-like design techniques in order to speed up online transactions and add some entertainment for its users (Perryer, Scott-Ladd, & Leighton, 2012). In the current, expanded sense, gamification can be described as the use of elements from gaming for the purposes not directly relat-

ed to games (Detering, Dixon, Khaled, & Nacke, 2011), the use of structures of games in a business context or other context existing outside the realm of games (Werbach & Hunter, 2012) or the use of mechanisms of games for processes, programs and platforms where they traditionally would not be added (Swan, 2012). Meister (2015) even considers that gamification draws from the essence of standard games: attributes such as entertainment, art, transparency, structure, competition and dependence and converts it into a real process within the company. The main objective of gamification is to encourage greater engagement among participants, boost their motivation (Burke, 2014), but also solve organizational problems through the use of engagement of employees, (individual and group) consumers of the product (Singh, 2012).

What can be considered the roots of gamification are marketing processes already used since the beginning of the twentieth century. They include: toys added to the products, loyalty points or the game of *Monopoly* created by McDonalds. They are an attempt to inspire loyalty and a sense of entertainment among customers (Griffin, 2014). Its associations include: psychology, fun, communication, teamwork, problem solving, risk and decision taking, organizing the work place and confidence (Simpson & Jenkins, 2015). Gamification, thanks to such a broad base from which it derives, can be applied to virtually all aspects of the organization that require active participation and constant stimulation – recruitment, induction, training and performance management of employees (Callan, Bauer, & Landers, 2015).

The potential of the use of gamification therefore exists in each sector of the market (including recruitment) and has a number of derivatives. The first of these is the fact that fun and play are an integral component of everyday life. Researchers were even looking for a source of culture in it (Huzinga, 1967). What is the most important for business is the fact that the components of games and gaming lead to the development of engagement and motivation of those participating in it.

What is also important is the technological development and popularity of all kinds of games. Kapp (2013) lists the following factors for success on the global gaming market:

- games have become easier to design, special programs can build the game very quickly and easily,
- there is an increasing number of high school and university graduates interested in programming games who do not get a job in a given profession, so they bring gaming mechanisms and solutions into other departments related to technology and/or the Internet,
- the games are available on smartphones, so those who wish to use them are no longer dependent on physically bulky equipment, and can carry it everywhere with them and play in almost every corner,
- the average age of an average player increases. Thanks to the fact that gamers often hold important positions, the stigmatization of games in places connected with business or academic environment is weakening.

These arguments show that the number of players and game designers continues to grow together with the development of technology. In the USA (the world's largest gaming market), 97% of young people play, 40% of all gamers are women and a statistical player is 35 years old and has been playing for 15 years (The Entertainment Software Association, 2010). In Poland, it is estimated that 91.4% of men and 78.8% women play games (SW Research, 2012). The study involved people in the age category from 16 to 60 and found that people of all ages play. The distinction begins to appear only upon identifying the type of games played (SW Research, 2012).

The use of gamification in the selection process may thus be something interesting for players because of the form, but also when referring to the activities that seem to be uniquely pleasant for candidates. For the company, properly designed gamification can bring specific, tangible benefits: achievement of the objectives on a large scale, understanding the importance of motivation and teaching its beneficial use, easy access to content aimed at teaching design and uses of gamification. It is therefore fun for both participants and for designers (Tkaczyk, 2012). Moreover, this method, thanks to its lightweight form, allows for showing that the company cares about the involvement of employees and is not devoid of humour (Zicherman & Linder, 2003).

However, in order for gamification to meet all the above assumptions and goals, it is necessary to properly construct its structure. The game design constructed at the beginning should meet a number of conditions in order to become gamification, not only a form of entertainment. First of all, the project should be developed in accordance with the generally accepted scheme: definition of the problem – defining the desired behaviour – description of the player and their motivation – introduction of elements of fun – description of the rules of the game (Siadkowski, 2014). In keeping with this model, gamification appears to be at least correct, but not in every case exciting and engaging. What is responsible for these aspects are gaming elements transferred directly to gamification, that is: game components, its mechanisms and dynamics (Enders, 2013). If one presents it visually, then game elements will present the essence of gamification on which certain mechanisms are built and finally the dynamics of the game is added. Table 1 shows the elements necessary for the gamification project together with their possible variants.

In one gamification project, you can apply multiple or even all of game components. However, they must be adapted to the dynamics and mechanics applied. All of these components make gamification interesting and engaging for the player, and their relationships can be configured in any way.

Table 1 *Essential elements of the gamification project and their variants*

Element components	Gamification project elements		
	Components	Mechanisms	Dynamics
Variants of a given element	<ol style="list-style-type: none"> <li>1. achievements</li> <li>2. avatars</li> <li>3. badges</li> <li>4. special challenges</li> <li>5. collections</li> <li>6. combat</li> <li>7. unlocking content</li> <li>8. bestowing</li> <li>9. ranking tables</li> <li>10. levels</li> <li>11. points</li> <li>12. missions</li> <li>13. social charts</li> <li>14. teams</li> <li>15. virtual goods</li> </ol>	<ol style="list-style-type: none"> <li>1. challenges – riddle/tasks requiring effort</li> <li>2. chance – elements of randomness</li> <li>3. competition – one player or team wins, the rest must lose</li> <li>4. cooperation – players cooperate to achieve the objective</li> <li>5. feedback – information on the progress or lack thereof</li> <li>6. opportunity to acquire sources – obtaining necessary/collector's items</li> <li>7. rewards</li> <li>8. transactions – directly between players or indirectly</li> <li>9. returns – sequential participation of players who change winning condition</li> <li>10. the objectives that entitle a player or group to be called the winner</li> </ol>	<ol style="list-style-type: none"> <li>1. limitations – limitations or restrictions enforced</li> <li>2. emotions – curiosity, competition, frustration and so on</li> <li>3. narrative – complex evolving game play</li> <li>4. progress – player development</li> <li>5. relationships – social interaction that generate feelings of companionship, status, altruism and so on</li> </ol>
Objective	The basis for building mechanisms and dynamics	Development of action and generation of player's engagement	Motivation for new challenges

Source: based on Werbach & Hunter (2012), pp. 127–132.

## 2. Gamification as a response to changes in the labour market

Technological changes, globalization, reduction of costs due to the crisis on global markets, an increasing pace of market changes, an increasing importance of intellectual capital and an ageing population have caused irreversible transformation of the global labour market (Dubois & Rothwell, 2007). One of its indicators is the shortage of qualified workers. A survey of employers showed that the number of vacancies in 2020 due to the lack of staff with appropriate expertise will rise to 35 mil-

lion worldwide (Kupczyk, 2010). Therefore, it is significant to seek for such a form of selection that would be able to verify specific competencies in a short time and with success.

Technological development and increasing globalization force companies to look for new solutions. Candidates for the job have also been subjected to the change characteristic of the present day. The people from the Generation Z (born after 1990) and Generation Y (born after 1980, the so-called Millennials) approach potential jobs with a different attitude than their predecessors (McCrinkle Research, 2006). Daily use of the IT sector, greater confidence and commitment to their own hobby means that they require from an employer mobility in obligations and make full use of available technology solutions (Ng, Schweitzer, & Lyons, 2010). Recruitment via Skype or submitting an application for a post in the company on the other side of the globe is not a challenge, but daily life for Ys and Zs. So, in searching for new forms of employee selection, it is necessary also to take this aspect into account.

Gamification, as a selection method, looks for and selects individuals with specific competencies. In the case of its use, you can even describe these competencies as talents (Ingram, 2011). It is not enough to have several characteristics required to win the game – one has to be the best, whether in terms of time (i.e. having the ability of quick analytical thinking), creativity (if the person with the best idea for a given situation wins), or in terms of intelligence (if the game is about solving tasks). In each of these cases, the winner is at a significantly different level of competences from other players. They allowed him or her to get the best results in the game and, thus, often to get the job.

What is also characteristic of gamification is the equality of all the candidates. Games are usually placed on special websites or social networks, so that anyone interested can try their hand at them. Thanks to this use of selection, a potential company using computer games as a form of recruitment is able to attract really outstanding employees, who would not be interested in the traditional recruitment process, or would feel that their competencies are not enough for the job (Zichermann & Linder, 2003). Gamification, therefore, has in fact a lot in common with headhunting – search for a person with an outstanding talent that seems to completely fit the profile of the company and a particular position and then submitting the offer which should be of interest for this person.

Thanks to the mechanisms of engagement, motivation and learning to use, gamification cannot be limited only to the selection of talented people. It might as well prove to be a good “teacher” of a given position or processes within a company. This allows the candidate applying for the position after passing the selection through gamification to become aware of what competences are required of them for this position, what tasks are associated with it and what the procedures of the company are. Even if he or she does not get a particular position, they will become aware of their strengths and weaknesses, which will help them in the future. In con-

trast, the company is confident that a given candidate is aware of the responsibilities that are associated with a specific position, and that the candidate is prepared if he or she dealt with the tasks given.

Therefore, when analysing the above features of gamification as a selection method and changes in the labour market, one can consider this form to be the form meeting all the required criteria. For the employer, the use of gamification is cheap and productive and it lets for examining specific competencies. But for younger generations who are just entering the labour market and who in a short time will become the majority it is an interesting, different and above all known form of checking their abilities and characteristics.

### 3. Research methodology

The literature clearly and precisely illustrates the potential advantages of using gamification in the recruitment process. However, there are no satisfactory results describing the willingness and assessment of gamification by young people – that is the potential audience of gamification. The subject of the research was the environment of potential candidates for a job. For pragmatic reasons this group was narrowed down to the community of students. The subject of the research was the assessment of gamification and willingness to participate in the selection carried out by its means. Independent variables were socio-demographic factors (gender, course of studies) and the habit of playing games and knowledge of their structures. They result mainly from the assumptions based on the characteristics of Generations Y and Z, that is, the increased amount of time spent playing games, which has an impact on their requirements and behaviour at work. The adopted dependent and independent variables are presented in Table 2.

Table 2 *Independent and dependant variables*

Independent variables	Dependent variables
<ul style="list-style-type: none"> <li>• gender</li> <li>• profile of studies</li> <li>• knowledge of structure of games</li> <li>• frequency of playing games</li> </ul>	<ul style="list-style-type: none"> <li>• willingness to take part in the selection of employers with the use of games</li> <li>• the preferred from of game</li> </ul>

These are the pilot studies due to the lack of other research results in this area of the gamification process. In this study the survey method was used. The technique used was the online survey, using Google Docs. The tool, thanks to which the results were obtained, was the survey sent electronically among the surveyed

students, containing questions grouped into thematic blocks concerning: respondents with respect to the use of gamification as a form of selection. It consisted of both closed and open questions. Data were collected in August of 2015. The return of values of surveys was 100%. For the analysis, 97 correctly completed questionnaires were classified. When analysing the data, the basics of statistics were applied. Because of the qualitative variables adopted in the study, to test the hypotheses, the author used the Chi-square statistical test ( $\chi^2$ ) and the Pearson correlation coefficient (c).

## 4. Results

The results of the study became the basis for the analysis of the students' willingness to participate in the selection process with the use of gamification, opinion of responders concerning advantages and disadvantages of gamification, factors differentiating their willingness to participate and the preferred form of gamification.

The vast majority of respondents stated their willingness to participate in the selection carried out by means of elements of games (68 cases, 70%). This high result indicates the potential for the use of gamification as a selection method. A quarter of all respondents, however, had no intention of participating in this form of selection (25%). Such a relatively high negative result may indicate a lack of knowledge of the respondents about gamification or to illustrate the state of the Polish market, where there are few forms of this type of selection.

Searching for factors differentiating willingness to participate in the selection with the use of the elements of gamification, the author decided to see if it is different for persons of the opposite sex and depends on the course of studies. In both cases, the results did not allow for diagnosing the relationship between these variables. Both women and men declared their willingness to participate in this form of selection of employees ( $\chi^2 = 2.606$ ,  $p = 0.272$ ). At the same time, there is little apparent relationship between willingness to participate and sex of respondents – the greater part of men (78%) would like to participate in this form of recruitment with the lower percentage of women interested (66%). In addition to that, both students of humanities and science preferred to participate in the selection with the use of gamification – an average of 70% ( $\chi^2 = 0.379$ ,  $p = 0.827$ ).

Responses, however, are less uniformed in the subsequent responses. Most respondents are still unable to precisely indicate the preferred form of recruitment (61%). In other cases, a computer game enjoys a slight more interest (21%) than gamification in the form of Assessment Center (18%). Presumably, this is due to the lack of knowledge about gamification as a form of selection, and, therefore, respondents are not able to accurately answer the question.

Greater interest is definitely evident in the case of selection of advantages and disadvantages of gamification (respectively: Figures 1 and 2).

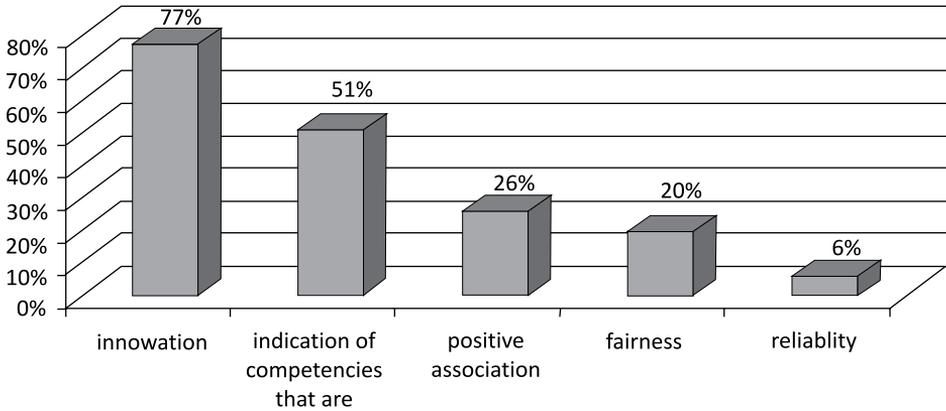


Figure 1. *Advantages of selection through gamification indicated by responders.*

\* Multiple choice questions.

\*\* Percentage of the total number of respondents (n = 97).

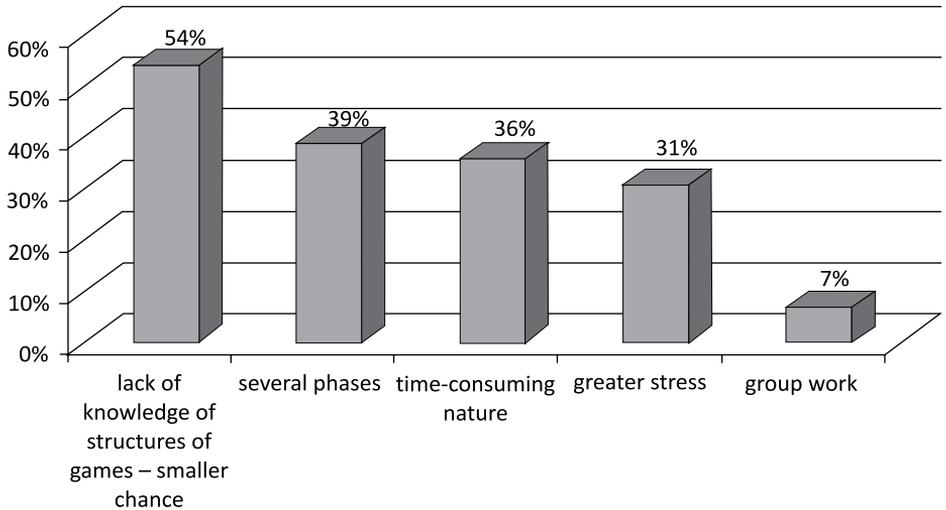


Figure 2. *Disadvantages of selection with the use of gamification indicated by responders.*

\* Multiple choice question.

\*\* Percentage of the total number of respondents (n = 97).

Respondents recognize innovation in the labour market (77% of respondents chose this feature) as the biggest advantage of gamification. Indication of competence which a given person lacks and, at the same time, a chance for their improvement/acquisition, in the second place (51%) means a strong commitment to treating students as a form of verifying one's own abilities and awareness of the high requirements of employers. From the data presented in Figure 1 appears that respondents attach little importance (respectively 20% and 6% of respondents) to the fairness and reliability of this method as an advantage of gamification, which is considered an advantage of gamification by researchers.

However, in the case of disadvantages of the selection with the use of games, respondents give priority to the ignorance of structures of games, which could potentially reduce their chances of getting a job (54% of responses). This response indicates a lack of knowledge by the students of both the definition of the structure of the game and assumptions of recruitment through gamification (search for an employee with the right skills and knowledge). The figures indicate the unwillingness of respondents for the long-term recruitment – 39% of all respondents consider several phases of gamification a disadvantage, 36% indicate its time-consuming nature (Figure 2).

Referring to the mentioned review of the literature, however, what seems to be the most important are the questions about the differentiation of the intention to participate in the selection by gamification in terms of knowledge of the structure of games and the amount of time spent playing computer games by young people. Taking into the account the constantly increasing proportion of people playing games and the definitions of Generations Y and Z as people integrally connected with information technologies, these variables should become a distinguishing feature of young people on the labour market, and, therefore, the determinants of their intention to participate in gamification as the recruitment stage.

These assumptions, however, have not been confirmed in reality. While the majority of respondents declared their willingness to participate in gamification as a form of selection, the amount of time spent by respondents on computer games did not differentiate significantly this willingness ( $\chi^2 = 8.924$ ,  $p = 0.349$ ). Moreover, 45% of respondents chose answer “never” as the frequency of playing games. With 97% of the players in the US and an average of 80% of the players in Poland, this data may lead to the conclusion that the research results on the community of players are overestimated and they will not have such a significant impact on the popularity of gamification as commonly believed. On the other hand, the respondents themselves may not fully realize what online games are and that, in addition to standard computer and video games (as a closed whole), any activity in which one can receive a reward as a requirement is a kind of game. This may indicate a noteworthy fact that there is statistically significant ( $\chi^2 = 26.263$ ,  $p = 0.050$ ,  $c = 0.462$ ), difference in willingness to participate depending on the declared level of knowledge of the game (Table 3). The higher level of knowledge of gaming structures,

the greater willingness to participate, but it differs slightly from the level of persons who declared poor knowledge of structures of games. At the same time, one may conjecture that respondents through the structure of the game understand the structure of games as its mechanisms and components without the dynamics of the game.

Table 3 *Distribution of the relationship between the declared level of knowledge of structures of games and the willingness to participate in the selection by gamification*

Willingness to participate in the selection in the form of gamification	Very high	High	Average	Low	None	Total
Yes, I want to	1	14	39	10	4	68
No, I don't want to	0	3	9	10	2	24
I don't know	0	0	2	3	0	5
Total	1	17	50	23	6	97

## Conclusions and limitations

The results of this study support the conclusion that the surveyed people entering the labour market have a positive attitude to the selection with the use of elements of gamification. They see it as an attractive form of recruitment (a high percentage of respondents declaring innovation as an advantage of gamification). In addition, they perceive the negative side of the traditional selection process of candidates – weariness with multi-step selections (high position among disadvantages indicated), or their time-consuming nature (again often indicated among disadvantages of gamification). Among the adopted variables of a socio-demographic nature, none of them differentiates statistically significant interest of the candidates in gamification – which suggests a general interest in this form of selection among people from Generation Y and, thus, those who are familiar with information technologies.

In the case of factors strictly related to games (the time spent on this type of entertainment, knowledge of structures of games), despite the growing number of players this fact does not especially differentiate interest in gamification as a selection method. Only the declared greater knowledge of structures of games allows for noting higher results in the potential willingness to participate in gamification as a form of selection.

Due to the lack of a significant statistical variation among respondents, dependent and independent variables can be assumed to have no major impact on willingness to participate in the process of gamification. It is, however, in opposition to research on Generations Y and Z, and their theoretical inextricable connec-

tion with the virtual world. Moreover, a large number of people declaring no use of video games seems to confirm this statement. At the same time, however, it means that the mere fact of playing does not entail the desire to participate in gamification. Therefore, despite the perhaps erroneous starting point which assumes that the increased number of players = potential of gamification, this form has the potential to increase its reach.

The pros and cons indicated by the respondents are also highly important. They clearly show that young people become bored with traditional forms of recruitment and its several phases. After unsuccessful recruitment, they expect clear feedback on those competencies that they would be able to develop/acquire to get this or similar position in the future. It may become a signal for recruiters about how they should prepare recruitment and selection to encourage people with the highest competencies to apply, taking into account the needs of both recruiters and candidates.

Naturally, this study which assumes a relatively small research sample may not be free of a measurement error and should be considered only as pilot for further consideration of the potential popularity of gamification and the adequacy of its application in the selection of present and future young people. What will be necessary are comprehensive solutions that, on the one hand, will deal with the expectations of young people entering the market and, at the same time, propose such forms of recruitment which will meet the expectations of both employers and the technical requirements of the new selection methods.

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