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Gamification – the key to in-depth exploration of consumer behaviour in market research

Abstract

Theoretical background: Games are used in various fields beyond pure entertainment: education, health services or human resources. They are also considered one of the most rapidly growing trends in marketing. Using gamification to engage the consumer and increase his loyalty is commonly used in nearly all product categories. Playing games is fun and companies use it to attract and involve the consumers in their brands' activities. In addition, the role of gamification in market research is increasing. It helps to understand consumer behaviour by inducing a more natural mood in the survey process, and increasing engagement and the cognitive accessibility of often hidden information. The effectiveness of gamification requires systematic verification in the experimental research. Researchers indicate the positive effect of gamified research on respondents' engagement and efficiency.

Purpose of the article: This article presents the current state of knowledge in the field of gamification in market research. Its main purpose is to share the author's own research results which are the replication of former results showing the positive effects of gamified tasks used in surveys.

Research methods: An experiment was conducted to verify the hypotheses regarding the increased effectiveness of gamified tasks compared to the regular approach as well as to the well-known projective techniques. A total of 132 participants were split into three groups: control, experimental 1 (projective techniques or simple gamification – addition of extra rules to regular questions) and experimental 2 (more complex, narrative and contextual tasks based on gamification).

Main findings: The hypothesis was confirmed and the former effects were replicated – gamified tasks increase the respondents' effectiveness compared to the standard tasks and also compared to the use of the well-known projective techniques.

Introduction

Playing games make people happy. It helps to detach from the reality – often a one dimensional, fairly boring and repetitive life. A game creates a new situation in which we can be anyone, we can test different solutions without any risk and the gratification is immediate. Huizinga in *Homo Ludens* (1949) wrote that playing is accompanied by a feeling of tension, joy and the consciousness that it is something different from ordinary life. There are emotions involved in a game that help people forget about their daily lives. There are many interesting examples to support this thesis. McGonigal (2011) cites a story by Herodotus about the famine strike in ancient Lydia. The Lydians developed a strategy to cope with the hunger – they played games every second day and this helped them avoid food cravings. This way, they could only eat during play-free days. They survived 18 years using this method.

It has been proven that playing games impacts human cognitive and emotional performance and induces a specific state of *flow* (Csikszentmihalyi, 1990), described as a status between satisfaction and euphoria, and which is activated by complete devotion to an activity we perform for the very fun of doing it. While playing a good game, people are intensely engaged and their key systems – motivation, attention, reward centre, emotion and memory – are activated. This leads to the feeling of happiness, which can be hardly achieved in such a compact way during activities other than games. This is the reason for the enormous popularity of all types of games. In 2018, almost 100 million unique viewers watched the stream of "League of Legends" finals – one of the most popular online video games. In addition, board games are increasingly popular – 190,000 fans attended the annual Spiel fair in Essen in 2018. McGonigal (2011) cites sources showing that in the US, 69% of all heads of household play computer and video games and one out of four gamers is over the age of fifty.

This article focuses on the use of games in market research by presenting the current state of knowledge in this field, sharing the author's own research results and proving the positive effects of gamified tasks used in surveys.

Gamification – literature review

Caillois (1961) underlines how a game relaxes and amuses at the same time, acting contrary to work. By the mere act of playing, people have fun, become more spontaneous and unconstrained, and do not feel the weight of the consequences of

their actions. The major advantage of playing is one's involvement and sincerity of reactions and behaviour.

The positive effects of playing games are widely used in many non-gamified environments. This phenomenon is called *gamification*, defined as using game design elements in non-gaming contexts (e.g. Deterding et al., 2011; Paharia 2013). A thorough overview of these contexts has been prepared by Tkaczyk (2012), presenting the use of gamification in human resources, education, health services and marketing. The latter branch seems to have the biggest impact on people worldwide.

Paharia (2013) claims that gamification is a child of motivation and big data. The author of *Loyalty 3.0* distinguishes games created to provide entertainment from the advanced tools based on game methods developed to increase customers' loyalty, engagement, brand awareness or knowledge about a product. The five components of intrinsic motivation are effectively delivered by using gamification in complex marketing programmes: being autonomous, mastering the skills and feeling of constant development, having influence in the alternative reality of game, being aware of the progress and, finally, feeling the bond with others while cooperating, competing or just interacting in the world of game. All these basic factors combined with the newest technology and big data are widely used in marketing to build the customers' loyalty.

While gamification's role in marketing is to make people more involved in the brands' worlds and build their loyalty, the same concept used in marketing research serves different purposes. It could be adapted as an elaborate projective technique using the main triggers of human intrinsic motivation mentioned above. Involved in a pleasant activity, people are more sincere, engaged (Robson et al., 2015) and creative and it is easier to discover their hidden beliefs and motivations. Moreover, the group process is smoother and the interaction more natural and efficient and the participants simply enjoy the gamified activities (Puleston & Malinoff, 2011).

In the market research, gamification can be applied as a way to make the questions more involving and increase the level of completion. Puleston and Sleep (2011) emphasise the importance of design and ergonomic flow of research in the dropout reduction and in making a survey more engaging experience for the consumer. They observe that applying a fun or game-based mechanic resulted in very positive reactions from the respondents. People claimed that participating in the research was just more fun. Moreover, such gamified approach stimulates respondents to be more effective: a simple phrase "we challenge you" added in front of the task increases the number of elements recalled (ads) three times.

Puleston (Puleston & Sleep, 2011; Puleston & Rintoul, 2012) provides a thorough overview of different game-based elements successfully used in the market research surveys to increase the respondents' effectiveness and involvement by extending the respondent's concentration spans. In one of the experiments, Puleston and Sleep (2011) decided to turn questions more into "quests". The participants in the control group were asked to evaluate any number of artists from a pre-defined list. The following question was asked: "How much do you like each of the following music artists?". The

experimental "quest" group's task was worded: "Imagine you are in charge of your own private radio station, where the DJs play just the music you like. You will be shown a series of artists, and we want you to build up a play-list by deciding how much each artist should be played.". When creating the playlist, the participants had to evaluate selected artists as well. The experiment outcome proves that the contextual tasks are more effective: the control group evaluated a total of 83 artists, while the number in the experimental group amounted to 148. The gamified variant offered the same task – to identify favourite artists – and almost doubled the effect of the regular approach.

Further proof that gamification methods work comes from the outcome of an experimental study of Puleston and Rintoul (2012). Participants of the control group named their favourite Olympic disciplines. The gamified group was asked to imagine they were responsible for the TV broadcasting of the Olympic Games in London in 2012 and their job was to plan the broadcast based on the disciplines they would like to watch. The results of this study proved again that adding context increased the average number of listed disciplines when compared to the regular approach.

The results of these experiments prove that using gamified research tasks and allowing the respondents to participate in mini-quests increases the effectiveness. Such an approach provides invaluable help in the process of designing a quantitative survey questionnaire or some simple qualitative tasks for the respondents. The next part of this text focuses on a more elaborated and in-depth strategy – when a research becomes a game. This is linked with the qualitative approach and focus groups. The gamified approach allows the participants to enter a more in-depth interaction level – they not only discuss but play, get involved, compete and lose themselves in the game, which is designed to help to understand the brand's image or complex purchase decision process. In this approach, a game can be treated as an elaborate and highly involving projective technique.

My own research (Ścibor-Rylski, 2018) was designed to replicate some of the Puleston effects, adding more depth to the results by implementing a complex, gamified approach in the form of the narrative game used in the qualitative market research: Brand Secret. This tool was designed by market research company Kantar to aid the qualitative brand audit process. It is an elaborate projective technique based on personification and narration. The outcome of the task is a thorough analysis of image combined with a brand position on the archetype wheel (compare e.g. Mark & Pearson, 2001).

Brand Secret can be played throughout the focus group session, yet it can also be used simply to aid personification. The latter function was an aim of my own research (Ścibor-Rylski, 2018). The respondents were handed a questionnaire with a matrix of 40 attributes that can be assigned to a brand. Their task was to mark which of these attributes go well with three brands of beer: Żywiec, Żubr and Desperados. The aim of this experiment was to check what kind of instruction will result in the highest number of answers given by respondents. The control group was asked to name attributes with no additional aiding techniques. In the experimental group 1 (regular projective

technique) a personification task was introduced and then respondents were asked to indicate the fitting features. In the experimental group 2 (gamification) elements of the previously described narrative game Brand Secret were used, and respondents not only had to imagine the three beer brands as people but they also pictured them on a desert island, confronted with different tasks and threats. The result of the statistical analysis was significant with a large effect size: the group based on the narrative gamification technique indicated significantly more attributes than the personification group and the control group. At the same time, the experimental group 1 did not prove more effective than the control group.

This first approach to testing the effectiveness of the gamified techniques in the marketing research obviously required replication. I decided to introduce some modifications, however. People were asked to come up with the traits – instead of marking them on a predefined list. Such a manoeuvre does not change the task itself, but it makes the experiment more relevant for proving the power of gamification in qualitative research, where all the associations are usually given spontaneously.

Author's own research

Research methodology

I conducted the experimental study on the group of 132 students of the Faculty of Management of the University of Warsaw, split into three groups:
– control (no aiding techniques were used);
– experimental 1 (with aiding techniques, not based on gamification);
– experimental 2 (gamification).
The respondents were handed out a questionnaire with three tasks – their content was different in the respective groups and will be presented in the subsequent part of the chapter. No time limit was imposed.

The experimental manipulation varied across the tasks, so the detailed hypotheses will be presented in the description of the subsequent parts of the experiment.

Results: task 1 – brand image study
The first task was designed to replicate the effects observed in my initial experiment (Ścibor-Rylski, 2018). The respondents were asked to devise a list of attributes that go well with three brands of beer: Żywiec, Żubr and Desperados. The task description varied across the three examined groups:
– the control group was asked to name attributes with no additional aiding techniques;
– in the experimental group 1, a projective technique of personification was introduced – the respondents had to imagine brands as people, and then they were asked to name fitting features;

– in the experimental group 2 (hard gamification) elements of the previously described narrative game Brand Secret were used to simulate brands' presence on a desert island, then the respondents were asked to write down the attributes.

I formulated the following specific hypothesis:

HYPOTHESIS FOR TASK 1: The number of attributes written down in the experimental group 2 will be significantly higher than the number of attributes assigned to brands by experimental group 1 and the control group.

I also put forward a hypothesis that a significantly higher number of attributes would be named in the experimental group 1 than in the control group. Despite the lack of significant differences in the original experiment between control and experimental group 1, I assumed that use of the projective technique will be more effective at eliciting brand attributes than not using any aiding technique whatsoever. The assumption was based on the results of the Puleston and Sleep (2012) experiment.

One-way analysis of variance was used to analyse differences in the average numbers of given attributes (total for all the three brands) between groups. It revealed a statistically significant difference and large effect size: $F(2.90) = 33.23$; $p < 0.001$; $\eta^2 = 0.36$.

The significance of differences between particular groups was calculated with a post hoc test with Bonferroni correction. The outcome is presented in Figure 1. The arrows mark statistical differences at $p < 0.05$ significance.

All differences were significant. The group based on the narrative gamification technique generated significantly more attributes than the personification group and the control group. The hypothesis for task 1 is thus confirmed, as is the additional hypothesis: using personification is more effective than not employing any facilitating technique.
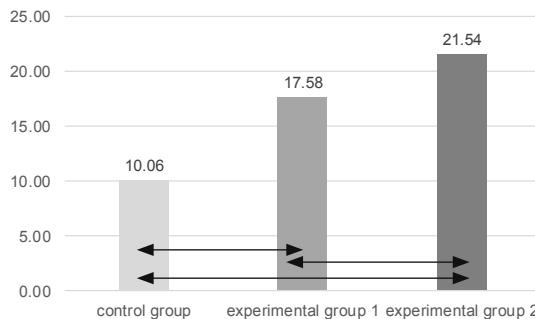

Figure 1. Differences in total number of features of all three brands given in task 1

Source: Author's own study.

Results: tasks 2 and 3 – role of context

Tasks 2 and 3 were constructed along the same lines and will be described together. In both tasks the respondents generated solutions which were then statistically analysed.

The objective here was to replicate the outcome of Puleston's studies and show that defining the minimal desired number of solutions and creating a context by using a "quest" mode increases the effectiveness of questionnaire studies. Task 2 was designed to replicate the "music" experiment (Puleston & Sleep, 2011) and task 3 referred to the "Olympic" experiment (Puleston & Rintoul, 2012). The respondents were divided into the following groups:

– the control group was asked to devise ideas without any additional aiding techniques. They were instructed to do the following:

Task 2: "List your favourite musicians (bands and soloists)".

Task 3: "What are your favourite summer Olympics disciplines?"

– in the experimental group 1 an additional rule was introduced – the findings of the previously quoted studies by Puleston and Sleep (2011) signify that such a step leads to generating more ideas. The respondents were instructed to do the following:

Task 2: "List at least 7 of your favourite musicians (bands and soloists)".

Task 3: "List at least 3 of your favourite summer Olympics disciplines".

– in the experimental group 2 context a "quest" was added: the respondents were asked to imagine themselves in a given situation and then give answers. They were instructed to do the following:

Task 2: "Imagine you are about to create a Spotify playlist with all your favourite music. List all the musicians (bands and soloists) that would hit this playlist".

Task 3: "Imagine you are responsible for the next Summer Olympic Games broadcast. You can include all of your favourite disciplines. Which ones would you broadcast?"

I made the following specific hypothesis:

HYPOTHESIS FOR TASKS 2 AND 3: The number of ideas respondents from the experimental group 2 will come up with will significantly outnumber the figures in the experimental group 1 and the control group.

I also proposed a hypothesis that a significantly higher number of ideas would be generated in the experimental group 1 than in the control group. Adding the principle (write down at least x words) to a regular instruction of naming some elements should result in a higher number of ideas being named by respondents. Participants are motivated to exceed the researcher's requirements. Even if they do not find the topic captivating, they try to deliver the required minimum.

Creating a context leads to the higher involvement of the respondents – there is no longer the need to meet the set requirements, but it relies on using imagination and transforming a research situation into a narrative quest (a game).

One-way analysis of variance was used to analyse differences in the average numbers of ideas generated by the respective groups. It revealed a statistically significant difference in task 2 where a list of musicians was to be created. However, the observed effect size was small: $F(2.108) = 3.77$; $p = 0.026$; $\eta^2 = 0.06$.

Significance of differences between particular groups was calculated with a post hoc test with Bonferroni correction. The outcome is presented in Figure 2. The arrow marks the statistical difference at $p < 0.05$ significance.
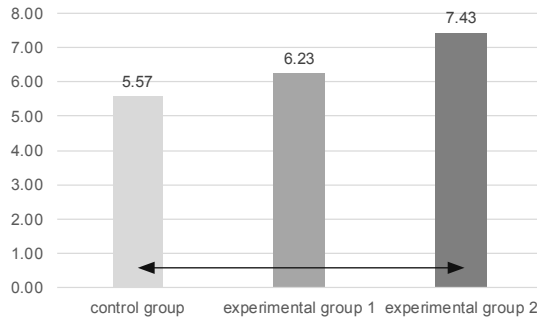

Figure 2. Differences in average number of listed musicians in task 2

Source: Author's own study.

The only significant difference was observed between the gamified and control groups. Adding a context was more effective than a simple request for a list of musicians.

The hypothesis for task 2 has been partially confirmed: the experimental group 2 generated more items than the control group. The additional hypothesis has not been confirmed: using an additional rule was not more effective than not employing any facilitating technique.
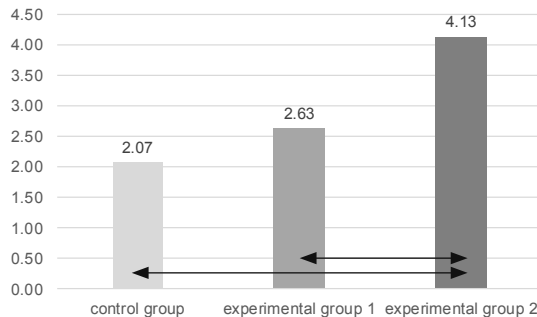

Figure 3. Differences in average number of listed disciplines in task 3

Source: Author's own study.

The analysis revealed a statistically significant difference and large effect size in task 3 where respondents planned the Summer Olympic Games broadcast: $F(2.110) = 18.12$; $p < 0.001$; $\eta^2 = 0.23$.

Significance of differences between particular groups was calculated with a post hoc test with Bonferroni correction. The outcome is presented in Figure 3. The arrows mark statistical differences at $p < 0.001$ significance.

The hypothesis for task 3 has been confirmed: the experimental group 2 listed significantly more disciplines than the other two groups. The additional hypothesis has not been confirmed: using an additional rule was not more effective than not employing any facilitating technique.

Discussion

The analyses described in the chapter have confirmed most of the hypotheses made in the study. The attempt to replicate the former effects can be considered successful. Gamified tasks stimulate the respondents and provide better results – in terms of quantity. However, the qualitative analysis of the features generated in task 1 showed that adding narrative, role playing elements not only increases the number of the traits but it influences their depth. Typical answers in the control group were rather shallow and generic: "relax", "friends", "party", "cheap", "popular". The experimental group 1 (personification) provided deeper results with wide options for interpretation: "a person that values calm but also high quality of products", "scruffy man spending time in front of his TV". In the experimental group 3 (gamification – desert island) , the most in-depth brand features were mentioned: "being orderly, he longs for his daily routines and being individual, also he questions all the group decisions". Using a gamified projective technique provides high quality, deep output for qualitative analysis of the brand in the competitive context.

The lack of differences between the experimental groups in task 2 may be explained with the task relevance – listing the favourite musicians was rather easy, possible answers were very accessible and the students eagerly completed this task. Perhaps in the case of such simple tasks, the gamification does not contribute that much as in the case of more complex and difficult tasks. On the other hand, the contextual, gamified approach was more effective than the plain, standard one. The task complexity should be a matter for further examination.

The average number of disciplines listed in task 3 were much smaller than the quantity of musicians from task 2. This proves that the assignment was more difficult. It is much easier to come up with favourite artists than less cognitively accessible Olympic disciplines. In such a case, the gamified approach revealed its power. When asked to imagine they are responsible for the broadcast, people listed twice as many disciplines than in the control group.

Conclusions

The described experiments successfully replicate the preliminary results, showing the effectiveness of the gamified techniques in the market research. Seeing the respondents work more efficiently and providing greater insight is the biggest benefit of using the game-based tools. Such research lead to a better understanding of consumer behaviour in the times of obsolete transactional marketing and a more important approach based on creating a long-term relationship with the consumer.

Games used by marketing agencies grow in number every year – the application of different mechanisms requires constant monitoring and experimental check for effectiveness. The results presented in this article can be treated as planting a seed in the process, relevant not only for brand research, but also consumer experience and decision process, creative development and other market research domains.

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