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Gamification in Market Research – How to Encourage People to Write More

Keywords: gamification; market research; storytelling; quantitative studies; customer engagement

JEL: M30; M31; M37

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Abstract

Theoretical background: Gamification has been applied in business practice since its origins. Though one of the fields scarcely investigated so far is how gamification can be used to improve results obtained in the quantitative market research. The rationale behind this application is the phenomenon resulting in receiving rather brief and short responses to open questions in online surveys. Encouraging people to give more elaborated answers is a serious challenge of the modern online quantitative market research.

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Purpose of the article: The authors decided to check how to increase participants' engagement and effectiveness of the market research by applying gamified tasks. The gamification was used in two approaches: storytelling and points collection with leaderboards.
Research methods: The research was conducted in an experimental scheme with one control and two experimental groups with gamified tasks. Total number of participants that took part in the experiment was $N = 89$. Participants' task was to watch a TV commercial and fill out a form with the first reaction and evaluation of various aspects of the advertisement. All questions were open-ended and the number of used words was used as the indicator of the respondents' engagement.
Main findings: Application of points and leaderboards resulted in significantly more developed answers in comparison to traditional open questions and also storytelling tasks. On the other hand, narrative task – contrary to many previous research – does not seem to have impact on the answers' length. The results show that gamification oriented towards achievements and competition in the market research increase the performance and also can be a long-term motivational tool. These initial results are very promising, but further research is needed to verify the effect on bigger sample of the regular market research respondents.

Introduction

Computer-assisted web interviews (CAWI) is the most commonly used quantitative market research method in Poland – in 2019, it accounted for over 57% of total number of contacts with the respondents, while face-to-face quantitative interviews made up only 16.4%. It is also constantly gaining shares in the market research mix of methods – compared to 2018, CAWI's turnover increased by 12.9% (PTBRiO, 2020). Online surveys suffer from various drawbacks of the research situation – the respondents are not directly supervised which results in lower motivation to fully engage in sharing their opinions (Schillewaert, 2011). In effect, the researchers get, e.g. less elaborated answers to the open-ended questions.

One of the biggest challenges of the modern quantitative market research is how to encourage people to dedicate themselves to filling out a questionnaire they do not care much about. It is proven that gamified methods adding context to the research questions increase the participants' performance (Puleston & Sleep, 2011; Puleston & Rintoul, 2012; Ścibor-Rylski, 2019, 2020). However, previous studies focused on a single aspect of gamification only – storytelling and adding a narrative context to the questions of the survey. This paper's goal is to discuss different ways to increase the respondents' engagement in the online survey and increasing their willingness to give more elaborated answers to the open-ended questions. The presented study compares the effectiveness of two gamification techniques – storytelling and points collection / leaderboards.

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Literature review

Games and gamification

Games has been involved in management activities since the late 1870s (Schuurman, 2021). Strategic planning, personnel training and development or recruitment have been in the foreground of games application in the organizations until the early 2000s when a new concept have been coined and described in the literature: gamification (Chatterjee et al., 2003). And around 2010 gamification entered the mainstream of management science and practice. The main reason for the gamification being used is its ability to involve – just like games, gamification enables to engage people in activities that otherwise would be perceived as bothersome or dull (Dickey, 2005). Nowadays gamification finds its primary use in two areas: personnel development (on the inside) and marketing communication (on the outside of the organization).

Defined in the simplest possible way, gamification is "the use of game design elements in non-game contexts" (Deterding et al., 2011). This definition encapsulates a crucial aspect of gamification – to use gamified solutions does not mean to use games but rather to pick some game elements that may help one to achieve a specific goal and introduce these tools into the organizational environment. The range of these elements covers both popular as well as some more obscure techniques: tutorials, Easter eggs, unlockable content, set collection, scoring system, levels, goals, quests, checkpoints, achievements, badges, forums, leaderboards, statistics, storytelling, etc. (Alabbasi, 2017) and is by no means limited to this list. It constantly evolves and adjusts to the ever-changing social environment. When applied in marketing, gamification usually increases three parameters: engagement of customers, brand awareness and brand loyalty (Muntean, 2011).

Gamification in marketing research

The studies on gamification in marketing research stem from the experiments showing the effectiveness of the use of gamified elements in education. There are numerous studies proving that turning the process of learning into a game improves students' engagement and motivation (da Rocha Seixas et al., 2016; Homer et al., 2018; Seaborn & Fels, 2015). The most commonly used tools to achieve these effects are badges and leaderboards. Such way of rewarding, however, is not effective in every learning situation (e.g. Hanus & Fox, 2015). It can also have a stronger effect on people who prefer specific measurements of succeeding in a game (they are called "achievers" according to the Bartle's taxonomy of players [Bartle, 1996]). Apart from them, there are other player types who prefer less competitive and judgmental way of gamifying the tasks. Multiple studies also show the positive effect of the use of narrative and interactive elements of games on participants' engagement and

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motivation (Kapp et al., 2013; Mader et al., 2019; Villagrasa et al., 2014; Wood & Reiners, 2015).

Gamification used in marketing research serves various goals. Firstly, it is a tool to increase participants' intrinsic motivation by stimulating its three components revealed by Self-determination theory: autonomy, competence, and relatedness (Ryan & Deci, 2000; Harteveld et al., 2018) and transforming the flow of an often boring activity to be a reward in and of itself. The use of external rewards such as collecting points and beating others' results boosts respondent's extrinsic motivation as well. Better motivation produces an increased completion rate and a more positive experience – research participants consider the process more enjoyable (Triantoro et al., 2020; Zichermann & Cunningham, 2011). Second important role of gamifying the marketing research processes is the depth of collected data (Bailey et al., 2015). Harrison (2011) shows that the use of gamification leads to better involvement and openness for sharing thoughts.

In the qualitative marketing research, gamified tasks induce a "hot" behavioural condition making it easier to understand the true motivation and the reasons behind consumers' choices and actions in particular touch points with a brand or a product category. Playing a game makes people more engaged in the process. They are also more creative, sincere and it is easier to recall some elements from the past – e.g. memories from the decision-making process (Ścibor-Rylski, 2020). When used in the focus groups, gamification makes the process smoother and the interaction between the participants more natural and productive (Ścibor-Rylski et al., 2019).

Gamification in the quantitative marketing research results in an increased level of completion (Puleston & Sleep, 2011) and more elaborated responses – recent studies prove that adding a narrative context to a research question significantly increases the average number of generated items (e.g. brand associations) when compared to the regular approach (Puleston & Rintoul, 2012; Ścibor-Rylski, 2018, 2019). Hence, one of the intersections of management science and organizational practice, where gamification is applicable, are surveys. Both CATI and CAWI methods challenge a researcher right from the start: how to encourage people to actually invest some of their precious time into answering a questionnaire they do not really care much about. And if they agree to answer some of the questions, how to make them finish the task. Last, but not least challenge is to encourage the respondents to write more elaborated answers in open-ended questions and to be more engaged in checking all the relevant options in multiple-choice questions. Despite numerous results showing the effectiveness of gamifying the questions in the surveys, studies set in the natural context of marketing research are scarce. Ścibor-Rylski (2020) used this approach in the creative development research. The results shown that contextually gamified tasks stimulate respondents and help providing more elaborated answers. People use significantly more words to describe their first impressions after watching a TV commercial if the question was enhanced with a narrative introduction allowing the participants to imagine a certain situation. In this case the task included playing a role

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of an advertising agency employee who has sneaked a peek at a latest commercial designed by the biggest rival. The participants had to report their first impressions to their bosses to ensure swift reaction. The experiment presented in this article continues this direction.

Research methods

Research problem and hypotheses

The research question behind the survey was: how to increase participants' engagement and effectiveness of the market research when filling out the research questionnaires with open questions? Since the authors' main research interest is gamification, we decided to compare two different gamified tools: storytelling and points/leaderboards.

Three main hypotheses were formulated as follows:

1. Students given a backstory for the task will be more prone to give longer answers than students from the control group.

2. Students gathering points for the task will be more prone to give longer answers than students from the control group.

3. Students gathering points for the task will be more prone to give longer answers than students given a backstory for the task.

With hypothesis 1, the authors wanted to replicate the effects showed in the previous research using the narrative context (Ścibor-Rylski, 2020) – now in an online environment. Since competition is one of the important ingredients of the gamification and a powerful tool of increasing the motivation, in hypothesis 2, the authors assumed more elaborated answers in a gamified quasi-competitive task than in a situation with a backstory. We assumed that such a procedure would work better among students than just adding a narrative context. This assumption is grounded in the self-determination theory – one of its components – the psychological need for competence is aimed at controlling the outcome and experiencing mastery (Ryan & Deci, 2000). Also, Deci (1971) reported that positive feedback on a task increases people's intrinsic motivation to do it by satisfying people's need for competence – which might be a valid factor for further stages (second and third) of an experiment.

We also formulated several additional research questions that we plan to expand upon in future researches:

1. What will be the response rate in each research condition?

2. What will be the drop-out rate between the stages in each research condition?

3. Is there a correlation between the length of the answers and the appeal of the commercial?

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Research method and procedure

The research was conducted in an experimental scheme with one control and two experimental groups. The research has been carried out following the ethical requirements established by the board of ethics of the University of Warsaw. The groups were recruited from among the students of the Faculty of Management of the University of Warsaw in a semi-randomized way. Approximately 40-student groups from two different study paths were randomly assigned to particular research groups. Every research group was given the same task – to answer a set questions about their opinions on three TV commercials. Each was related somehow to COVID-19 and focused on brand's offer during the pandemic times. The three brands presented in the commercials were: BLIK (fast payments), T-Mobile (telecom) and Żywiec (beer). The commercials were presented consecutively in 4-days-time intervals and were the same for all groups with the main difference being the introduction to the survey:

- Control group was simply directed to an online questionnaire and asked to answer the questions.
- "Storytelling" group was given a short introduction with a fictional story background, which was different for each research phase, and then asked to do the same as the controlgroup. The backstories used for three stages were:
  - PHASE 1: Imagine you work for an advertisement agency and you are designing a new campaign. Your biggest rival working for competitor's brand has just created a new ad – somehow you managed to watch it before the official premiere. You need to react as soon as possible to design a relevant commercial as a response and not to fall behind. You want to share your thoughts with the creative team and your management. Watch the commercial and write down what do you think of it.
  - PHASE 2: Imagine you join the students' marketing science club and you plan to dedicate your professional future to this area. You start a blog where you are commenting on different advertising campaigns. You want to share your thoughts and observations regarding the current ads and marketing actions. You have just watched a new commercial and you would like to describe it on your blog.
  - PHASE 3: Imagine you are a jury member of a famous commercial contest. You have just seen one of the spots and during a coffee break you met your jury colleague who had not seen the ad. He asks you to share your thoughts about the commercial and you want to do it in an as detailed way as possible.
- "Points" group was asked to do the same as the control group but additionally was informed that there will be a ranking held for the task. No details were given as to how the ranking would be calculated nor what the price will be – just that there will be points awarded and a leaderboard created for answering the questionnaire.

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The questionnaire was sent to approximately 80 students for each research group. The questionnaire consisted of five questions referring to the evaluation of the commercial. The questions represented standard marketing research approach to advertisement testing:

– first impressions – your first thoughts and associations after watching the ad.
– story – what story was told in this ad, which scenes do you remember?
– emotions – what did you feel after watching this ad? What was the atmosphere?
– message – what is this ad trying to convey?
– brand – what can you learn about the brand from this ad?

In the end the participants were asked to assess how much they liked the ad with a 1–10 scale with 1 being *not at all* and 10 – *very much*.

The procedure was conducted fully online in the following order:

1. Mailing with the link to the first commercial and to the questionnaire.
2. Three days for completing the questionnaire.
3. E-mail information about the leaderboard ("Points" group only).
4. Mailing with the link to the second commercial and to the questionnaire.
5. Three days for completing the questionnaire.
6. E-mail information about the leaderboard ("Points" group only).
7. Mailing with the link to the third commercial and to the questionnaire.
8. Three days for completing the questionnaire.
9. E-mail information about the leaderboard ("Points" group only).

To access the survey, participants needed to create a nick – the same used in all three phases of the research. The ranking in "Points" group was calculated based on the number of characters/words in the questionnaire but no specific feedback was given other than simple information about the overall score and the leaderboard display that were sent out to every member of the "Points" group.

Dependent variable operationalization

The dependent variable was defined as the research participants' engagement reflected in their performance. The indicator of the dependent variable was defined as the number of words used by the participants in their statements about the presented commercial.

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Results

General results

For each stage of the survey, the average word count of the answers was calculated in each group. It was done separately for each of the five questions and then a sum was calculated for each advertisement. Due to the identical pattern the results are presented only for a total number of the used words. Table 1 presents average number of words used to describe the ads from each stage by all three groups: control and two experimental: "Storytelling" and "Points".

Table 1. Descriptive statistics

Group	Statistics	Stage 1	Stage 2	Stage 3
Control group	Mean (word count)	81.04	73.17	80.13
	SD	52.68	53.67	42.44
	N	26	23	16
"Storytelling" group	Mean (word count)	72.55	73.90	73.90
	SD	38.06	33.17	39.84
	N	42	20	15
"Points" group	Mean (word count)	123.57	181.26	213.10
	SD	88.01	125.25	151.11
	N	21	19	10

Source: Authors' own study.

Low number of participants who took part in stage 3 (a significant drop-out rate was observed) forced us to analyse the results of only first two stages. Two-way ANOVA was computed with "group" as a between-group factor, "stage" as a within-group factor and "total word count" as a dependent variable. The number of effective cases is lower than shown in Table 1: $N = 22$ for Control group, $N = 20$ for "Storytelling" group and $N = 13$ for "Points" group – it is caused by the fact that repeated measures analysis needs each case to have answers in both stages. The results are presented in Figure 1.

The interaction of two factors is statistically significant with big effect size: $F(2.52) = 8.22$; $p < 0.001$; $\eta^2 = 0.24$. The analysis of simple effects shown significant differences:

a) The only significant difference between two stages is valid for "Points" group: the mean in stage 2 is significantly higher than in stage 1. In control and "Storytelling" groups, the difference between stages is not significant.

b) "Points" group mean is significantly higher than means from control and "Storytelling" group and it is valid for both stages. There are no differences between control and "Storytelling" group – both in stage 1 and 2.

The results' pattern for stage 3 is identical and the average number of words in the "Points" group is even higher than in stage 2. However, the number of participants who have completed the final stage was too low to use the statistical analysis.

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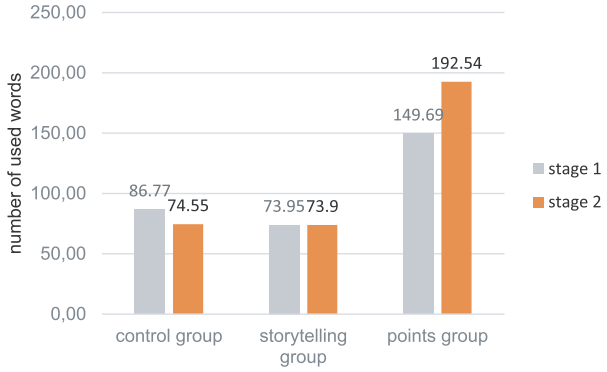

Figure 1. The interaction between group and stage

Source: Authors' own study.

Ad's appeal analysis

On the general level, the correlations between the number of words used and the ad's appeal are very weak which would suggest that the leaderboard has a stronger impact on the number of words than the advertisement's content or theme. However there are some interesting interdependencies on the group level. Control and "Points" groups did not reveal any correlations but in case of "Storytelling" group we have noticed strong and significant r-Pearson's correlation for stage 2 and 3:

Stage 2: $r(19) = 0.66$; $p = 0.003$,

Stage 3: $r(14) = 0.53$; $p = 0.041$.

The more people liked the ad, the more words they used to describe it. The possible explanation for this phenomenon is the emotional link created between "storytellers" and the ad. According to Bartle's taxonomy, people focused on social aspects of games (Socializers) tend to get more engaged in the activity if it involves a positively associated story. But the group size was not big enough to verify this assumption.

The stage 1 ad's appeal (scale 1–10) was significantly different for three groups. In case of stage 2 and 3 there were no differences. The results are presented in Table 2:

Table 2. Group differences in the appeal of the ads

Stage	Control group	"Storytelling" group	"Points" group	ANOVA
1	$M = 5.31$; $SD = 2.77$	$M = 6.43$; $SD = 2.19$	$M = 7.19$; $SD = 2.38$	$F(2.86) = 3.68$; $p = 0.029$; $\eta^2 =$ 0.08 (only control vs. "points" difference is significant
2	$M = 6.96$; $SD = 2.46$	$M = 6{,}90$; $SD = 1.68$	M = 7.31; $SD = 2.06$	$F(2.59) = 0.22$; $p = 0.800$
3	$M = 8.63$; $SD = 1.59$	$M = 8.33$; $SD = 2.09$	$M = 7.80$; $SD = 2.25$	$F(2.38) = 0.55$; $p = 0.581$

Source: Authors' own study.

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This phenomenon could be explained by referring to the theory of cognitive dissonance (Festinger, 1957) – the results show that the "points" group participants were very engaged in the research process which resulted in significantly higher performance than the other two groups. Since there was no physical reward involved, we might conclude that high engagement caused people to like the ad more. However, this assumption needs a thorough verification in a dedicated research. This result occurred only in the first stage and the effect size was rather small.

Response rate analysis

For each group, approximately 80 students were asked to complete the research. Looking at the number of people who participated in the first stage (which could be defined as "response rate"), we observe a big discrepancy between "storytelling" group (with more than 50% response rate) and two other groups (response rate for "control" group was approximately 33% and for "points" group – approximately 27%). We could not fully control if the prospect participants had contact with the instructions and then decided not to participate in the research or if they just ignored a request, but looking at the response rate of "storytelling" group we can risk the initial hypothesis than adding narrative context to a question makes people more interested in the task and facilitates the decision to participate in a survey. However, such a hypothesis needs a verification in a dedicated experiment with a careful control of the fact if the respondents have contact with a task.

Drop-out rate analysis

The drop-out between the phases is presented in Table 3.

Table 3. Drop-out rate

Group		Stage 1	Stage 2	Stage 3
Control group	*N*	26	23	16
	Drop-out		12%	30%
"Storytelling" group	*N*	42	20	15
	Drop-out		52%	25%
"Points" group	*N*	21	19	10
	Drop-out		10%	47%

Source: Authors' own study.

The highest drop-out rate was observed in the "storytelling" group – after the first stage more than 50% participants resigned. The drop-out rate in the other groups were similar and oscillated around 10%. This phenomenon could be explained by

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a large response rate in the "storytelling" group – people were attracted by interesting story, but the effect did not last until the next stage and the number of the students willing to continue dropped to a "regular" level typical for the other groups. Due to small number of participants in the third stage it is difficult to draw any conclusions based on the drop-out analysis.

Discussions

Due to the size of groups (both experimental and control), the results must be analysed with caution and definitely need a replication in order to draw sound and solid conclusions. With that limitation in mind, however, we may conclude that hypotheses 2 and 3 have been confirmed: people collecting points and aware of the feedback and leaderboards were more "talkative" than the students from the "storytelling" and also control group. As we had expected, the participants' engagement was high and resulted in long, elaborated statements about the commercials, which might be explained by the psychological need for competence aimed at controlling the outcome and experiencing mastery (Ryan & Deci, 2000). Moreover, "points" group was the only one, where we observed significant increase of engagement between stage 1 and 2. So it seems that gamification oriented towards achievements and competition can be a long-term motivational tool.

Surprisingly, hypothesis 1 was not confirmed: adding a narrative context to a question did not make people write more than the control group. There are research proofs that such effect exists (e.g. Ścibor-Rylski, 2019, 2020), and in this case the explanation might lay in the content of the tested commercials. All of them referred to the COVID-19 pandemic, which was a very hot topic during the course of the research. The theme might have created an absorptive background for multiple associations and stories which lowered the impact of the narration included in the question. Also, in the previous research in this field (Ścibor-Rylski, 2020), a commercial with an elaborate plot involving a love story between the characters has been used. In the presented experiment, the three tested commercials consisted of some single, unrelated scenes linked with the general COVID-19 theme. Lack of the vivid story to refer to in the task might also be the reason of the narrative task failure. Another factor requiring further investigation and possibly contributing to this phenomenon is the online nature of the research. It is possible that narrative context works differently in a traditional and in an online environment. Despite the size of the groups, there are several factors limiting the validity of the research:

1. The assignment of the participants to different groups was semi-random. Although the groups themselves were assigned to the specific pathway randomly, they were assigned as a whole, without randomizing participants of every group. Hence, group culture could play a role in the results and produce a bias. Yet, it is not a strong consideration because student groups used in the research are being created every

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semester from scratch and only a fraction of their members knows each other from previous classes, thus, a strong group culture was not likely to emerge.

2. All students were coming from one faculty of the university which means there was a self-selection process at the beginning. But since the result are being analysed relatively to other groups from the same environment one might say that although the result cannot be extrapolated to the general population, the strength and direction of the influence of the specific gamification tools used remains valid.

3. Several variables were not covered nor controlled – mainly due to the small sample sizes: gender, age, attitudes towards gamification, attitudes towards specific brands in the ads, workload caused by other assignments during the research, etc. One should take them into consideration while replicating the research since they can produce some variation in the results.

4. One factor might significantly impact obtained results – socio-cultural environment. This avenue has barely been investigated but it plays an important role in both the perception of the ads as well as the perception of gamification tools used in the research, e.g. in collectivistic cultures (Marginean, 2018) it is less likely to obtain so high results while using points awarded for individual effort. But this research avenue goes significantly beyond the scope of this paper.

The further research is planned to verify some of the results described in this paper. First of all a replication with the use of less specific commercials is needed. Also, it is worth to run such an experiment on regular market research participants – via CAWI panel to provide bigger ecological validity of a study. Another field of future research are the topics covered by the research questions in this paper. Due to small samples the answers need further examination, but the results' patterns seem interesting: narrative context added to a task increased the response rate, but it was rather a short-term effect causing in a big drop-out after the first phase. Also thorough examination of the relationship between engagement and the appeal of the stimuli is crucial for further development of gamified tasks. An effect showing that more engaged respondents tend to like the stimuli more, might undermine the sense of using some gamified elements in the marketing research – in this case feedback and competition operationalised as collecting points and comparing the achievements with the others in the leaderboards. Gamification should trigger motivation and involvement but it should not influence the results of a market research.

Conclusions

The research shows that gamification might be a valid tool that helps to bring from the research subjects more information in an easy and non time-consuming way. It might be useful for market researchers seeking for new ways to amplify the respondents' experience and therefore their engagement in the research process. Presented results contribute also to the current state of knowledge about the role of

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gamification in the market research – focus on the creative development research and the use of original tasks utilizing different types of gamification open new areas for the exploration of the effects of the use of game elements on the consumer's motivation to actively participate in the process.

It is to be decided which of the gamification tools works better and provides results of higher significance. A more detailed investigation on a bigger sample would definitely paint a clearer picture. We knew from the previous research that using narration-based tasks increase the respondents' engagement. The experiment presented in this paper proved that the points collection and leaderboards are extremely effective gamification tool amplifying the results of the market research tasks but we were not able to replicate the results from the narration-driven experiment. It is time to replicate this result using a more plot-oriented commercial as in the research that showed the effectiveness of the narration-based tasks. Another step would be verification of the use of various gamification tools in the other market research fields, e.g. product concept tests.

Possible practical applications of these results span many fields: design thinking sessions with more in-depth contributions from the participants, feedback on new products' tests with additional comments not previously covered by traditional methods, gamified training sessions with participants providing elaborate contents on the topics discussed, etc. Research applications are also almost limitless: above-mentioned market research being just one of many, quantitative interviews enriched by additional thoughts from the interviewees, experimental research with feedback rounds build around simple gamification tools, etc.

Future research planned by authors also cover the revision of other gamification techniques and will bridge basic research with marketing practice in terms of scientifically solid examination in "real-life" environment. Because gamification – by nature – is a phenomenon drawing from both academia as well as from business environment. And only by having that in mind a successful research in this field can be carried out.

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