Some Factors Hindering Acceptance of Three Gamification Solutions in Motivation Systems, in Small and Medium Enterprises

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Abstract. *Gamification, understood as a use of chosen game mechanisms for motivating actors in non-game contexts, is increasingly popular and has become one of the "hot topics" of managerial practice and science. Despite its widespread use in HRM, several barriers preventing its progress in certain types of organizations have been identified. Small and medium enterprises (SMEs), where employees are not accustomed to formal procedures are a specific example, as gamification is based on formal procedures. The goal of the text is to analyze employees' opinions concerning the incorporation of chosen gaming mechanisms into their motivation systems, to check if not being accustomed to formal procedures is a barrier. Beside "typical" SMEs where the entrepreneur is present, direct relations within a team are also characteristic of company departments which achieve their goals almost without contact with the rest of the organization – as in the case of a discount stores chain. The study bases on two samples to check if being accustomed to formal procedures in the small team facilitates acceptance of gamification. Two questionnaires (one on a sample of 100 employees of a discount store chain, and the second on 73 "typical" SME employees) asked respondents to declare their preferences for different types of rewards in motivation systems, including readiness to be involved in two gamification-type solutions: based on (i) lotteries, or (ii) BLAP gaming with non-material and material prizes. The effects of chosen factors: psychological (risk aversion) and situational (dissatisfaction with current incentive system) on the perception of two different ways of incorporating gamification into motivational systems, were analyzed. The results show that dissatisfaction with the current incentive system and not being risk-averse favor accepting the incorporation of gamification solutions into motivational systems. The responses of discount store employees and SME employees were similar to each other.*

Keywords: gamification, motivation systems, small and medium enterprises.

Introduction

Gamification, understood as the use of chosen game mechanisms in other areas of social reality, is one of the hot topics in managerial practice, and its application is widely debated in management sciences. Currently, apart from animating sales and building client relations, enterprises use gamification in human resource management (HRM): to improve learning motivation in training, increase pro-

health behaviors, and in recruitment and selection. However, most examples of gamification come from large organizations.

It should be noted that all of these solutions are based on formal procedures, which link activity with rewards. Formalization of motivational tools is an everyday practice for employees in large companies, in which procedures are widely in use. However, the formal procedures necessitated by gamification solutions can be a barrier to their being accepted by small and medium businesses, in which employees are less accustomed to formality. Research that could settle this issue is insufficient, and scientific data concerning the use of gamification in small organizations very scarce.

Not only formal procedures can be a barrier to the widespread implementation of gamification in HRM systems of SMEs. The fact that these enterprises do not widely apply new managerial solutions is not surprising – one of their characteristic features is limited access to management knowledge. So before implementing gamification, it is worth verifying whether a lack of management knowledge is the main barrier this innovation may meet, and specifically – whether SME employees approve of such solutions.

The goal of the text is to check if implementing chosen gamification mechanisms in people management is hindered by the fact that SME employees are not used to formal procedures, and to seek determinants of their opinions. The theoretical analysis is conducted on a general level. However, the study itself is a pilot study, as there is little information in the literature concerning factors that facilitate acceptance of gamification in small enterprises. As the spectrum of SMEs is highly diversified, it is not wise to make generalizations based on one study, regardless of the size and character of the sample.

From a theoretical standpoint, the study attempts to verify whether the low focus on procedures, characteristic of enterprises in which owners dominate in the management system, is a key barrier to introducing gamification. With this goal in mind, two groups employed in companies where there is direct contact between the workers and their main decision maker (entrepreneur or manager) are compared. The first group comprises 100 employees of a chain of stores, where teams are small and independent but some procedures strongly formal; the second – more typical SMEs, in which work relations with the owner are direct but the company is based on fewer formal organizational procedures.

The text is organized as follows. The first part describes gamification and its already recognized potential for people management. The second recalls basic scientific facts concerning the specifics of SMEs. The next two describe research results[1]. We conclude with the main findings and the consequences of using gamification for people management.

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[1] The research is a fragment of a broader study on accepting different kinds of gamification by employees of Polish enterprises and their different departments – see (Woźniak, 2016; 2018). Some analyses from this text have been already presented at the Entrepreneurs & Entrepreneurship

Gamification and its use in people management

The term "gamification" was developed to stress that certain techniques could be transferred from entertainment type games to other areas of human functioning, where they could be used to facilitate activities. The most frequently cited definition of gamification is considered to be (Seaborn & Fels, 2015; Cardador et al., 2016) "using elements of games in contexts other than a game context" (Deterding et al., 2011). The extensive literature of the subject also emphasizes that, though a commonly accepted, precise definition is lacking, gamification is generally considered to be an activity in which certain solutions characteristic of entertainment games are transferred to other areas of social reality, in which they are used to encourage people to realize tasks designed for them (Hamari et al., 2014; Seaborn & Fels, 2015; Cardador et al., 2016). A list of game mechanisms available for transfer, i.e. structures which make playing games attractive, usually comprises such elements as points, orders, levels, challenges and prizes (Woźniak, 2016). Basing on the need to achieve and to gather (Ryan & Deci, 2000; Przybylski et al., 2010), they can facilitate involvement in an activity and in effect change users' behavior, so the latter are able to solve various problems. Some authors stress that equating game mechanisms that can be used to increase the player's motivation to perform with points and badges have little to do with gamification, and depreciatingly call them BLAP-type[2] gamification (Ferrara, 2013; Balcerak, 2015).

In reality, the reasons behind an interest in playing are wider than just the wish to gather points, a good example of which are games based on the drawing (with a strong random component) (Dale, 2014; Balcerak & Woźniak, 2014). An illustrative and frequently cited typology divides players into four groups: needing achievement; needing to understand the mechanisms of the world in which the game is played; needing to make contact with others; and needing to influence others (Wożniak, 2015a, b). The work (Hamari & Tuunanen, 2014) presents several other typologies. It is obvious that different needs may motivate the player to play, and the content of the game, acceptable for some players, may be inadequate for others.

We can, therefore, say that incorporating chosen game mechanisms into an area of reality creates an environment in which chosen kinds of actors (players) will become involved, while others will find this more difficult. Incorporating elements of games in a non-game environment therefore means that these become a part of tasks which are traditionally not viewed as play – for gamification to be effective,

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conference in Bucharest, Romania May 2017 and are cited without noting the reference. Some of these results have been also published in Polish as (Woźniak, 2017).

[2] Some authors used term "PBL gamification" with argument, that these 3 elements are common for almost every gamification ("Although there is not a complete list of what an actual implementation of gamification can consist of, there are some elements, which may be found in almost every gamification implementation. The three most obvious are points, badges, and leaderboards (hence the acronym PBL used as a synonym of gamification, especially in its primitive form" – Swacha, 2015, p.153). Critic of BLAP/PBL approach to gamification can be found in (Kapp, 2014). Example of gamification which is based on drawing shows that such approach is obviously to narrow – see (Dale, 2014).

however, i.e. for people to become involved in their task and to perform better, there has to be a good fit between the mechanism and the psychological profiles of potential players. In conclusion, there is no good gamification per se, and game mechanisms need to be adjusted to the expectations and psychological profiles of those who are to become involved.

The question whether gamification may be applied to all areas of business, and what the long-term social effects of such uses are, is widely discussed in the literature. Some authors see gamification as a tool for managing employee behavior in Taylor-type procedural systems. They suggest that gamification detracts from employees' independence and is yet another example of capitalism appropriating for itself the sphere of personal freedom (DeWinter, Kocurek & Nichols, 2014). They emphasize the fact that organizational power (as opposed to internal motivation) steers employees' activity in the game. They show that the logic of the capitalist system deprives players of any fun they may have in applying gaming rules to obtain proof of being able to succeed in an area of skills that is important for them. This danger is especially significant in those gamification systems whose goal is to increase motivation to act within knowledge management systems (Spencer, 2013). However, both postulated gamification solutions (Swacha, 2015), as projects already implemented (Herger, 2014), show that collecting points and achievements may also be motivating in the field of knowledge management systems – although we may speculate whether this will apply to all tasks in this area. General Electric used colored belts to show achievement level in the knowledge management field (chosen problem solving skills, and proof of experience in helping others) within the 6 Sigma system. Thus organizations have many years of experience with relatively simple and well defined tasks associated with gaining and passing on knowledge, and with applying motivators which now would be classified as gamification.

However, innovation, a distinct subsystem of the knowledge management ecosystem, (Woźniak, 2006; Valkokari, 2015) is a good illustration of an area in which gamification cannot easily become a useful tool for motivating employees. The more the task is imprecise, and both defining as solving it require a creative approach, the less useful for mobilizing the actors are motives associated with systems of points for achievements regulated by rules formulated ahead of time (Spencer, 2013). It is difficult to construct rules, i.e. procedures which associate precisely defined tasks with rewards, for all situations where tasks are undefined.

Distinguishing all the areas of human resource management in which gamification is already in use is not an easy task, not only because of the multi-faceted aspect of gamification. Gamification became fashionable once it was proved successful in the area of client relations, and attempts to apply it to other areas are becoming more widespread, as is the usage of the term "gamification" for activities conducted formerly without the use of this term. Firstly, games and their elements, now identified as gamification, have traditionally been used in development management – e.g. managerial simulations, or quizzes and icebreakers in training (Woźniak, 2015a, b; 2016). Secondly, specific game mechanisms have also been

traditionally used with a motivating function. "Best employee of the year" certificates, visualizations of successes (e.g. weekly sales results of our chain of stores) or of important events ("recently joined us" or "our employees building a school after the Tsunami") have used game mechanisms without calling it "gamification". Newer uses include points as a material-symbolic form of rewarding successes, basing on competitiveness with others or with oneself, but also on the need to collect and function in a society of collectors ("people like me"). With this in mind, gamification methods are commonly used in pro-health activities of HR departments (sports programs, but also OSH).

The inspiration for using gamification in employer branding came – obviously – from marketing. Historically, HR departments started to use gamification for image-building (employer branding) and recruitment purposes. Some new uses of gamification in recruitment base on the information that involvement in the game world may bring benefits to both players and their observers. Games and competitions can thus be used as a tool to increase knowledge concerning a given job (professional pre-orientation, giving candidates a realistic picture of what will be expected of them), and increase new employees' involvement and effective adaptation. At the same time, with some qualifications they may be used to gather information about the skills and competencies of potential employees – the behavior of simulation winners may be treated as an indicator of potential in everyday life (Woźniak, 2014, 2015a).

It should be noted that gamification is relatively infrequently used in reward management. Although points are a reward-carrying tool, not many organizations have dared to incorporate this kind of reward into the core of their remuneration systems, allowing points to be exchanged for material benefits. Research has shown that such solutions can be effective both for motivating and improving salesforce results in the US (Chung, 2015), and even in Poland, some salespersons consider them a useful tool for increasing involvement (Woźniak, 2016). Salespersons, however, are a specific professional group, characterized by higher risk-taking levels (Chung, 2015), and what follows – by a greater readiness to accept new and untypical solutions.

The social environment of SMEs and its potential for using gamification

SMEs are a significant sector of contemporary economies both due to the number of people employed, as their economic effect. E.g. in Poland in 2012 they created 48,5% gross added value for the GDP, were responsible for almost half entrepreneurial investments (41,6%), and employed ca. 70% working Poles over the past 10 years – Central Statistical Office, after: (PARP, 2015). Although for statistical purposes SMEs are variously defined, and the EU definition is not typical for the rest of the world (Woźniak, 2016), qualitative definitions usually include: an owner who dominates in a simple management structure, keeping decision-making powers, and limited access to knowledge from different areas (Lachiewicz & Matejun, 2012). Qualitative analyses also emphasize two features, one of which – limited access to financial products – seriously hinders the development potential

of these kinds of companies. The second – a good understanding of their clients, leading to innovation – is an advantage (Lachiewicz & Matejun, 2012). We should also note some serious barriers to innovation, very characteristic of these companies: a lack of structures responsible for creating new solutions (such as R&D) or incorporating them into market practice (marketing); limited access to knowledge and experience due to the small number and frequently low competencies of the people employed; management style which is autocratic or at least dependent on the character of the owner. At least a part of the SME sector, however, is an important source of economic innovation. As a whole, the sector is very differentiated and contains companies from the Knowledge Intensive Business Services (KIBS) sector and start-ups (companies launching advanced IT businesses). Currently, the KIBS sector covers not only traditional business services and high-tech developers. Due to the significance of ICT in contemporary business, it also includes many ICT knowledge-based services, and (the result of increased investment in health services and pharmaceutics) bio-high-tech companies. KIBS companies comprise approximately 12% of all small businesses in the US (Jennings et al., 2009, p.340), and ca. 10% of employment in the European Union (8,6% of total value added) (Huggins, 2009). The large majority of them are small or micro-sized companies, with the few exceptions of international enterprises (Huggins, 2009). As organizational knowledge transcends cognitive knowledge (Bratianu, 2013), and access to contacts, new forms of communication, and important actors is easier in big cities or places where diverse people meet, KIBS are usually located in such places (Huggins, 2011, p.1463). This not only gives KIBS access to the right employees but also the opportunity for them to constantly develop their creativity thanks to contacting with a differentiated non-work environment.

Variously innovative start-ups in this sector are able to try out different solutions and ideas for enterprises. As a result, research treats the SME sector not only as a source of new places of work, but also as a developer of new solutions, both those necessary as those unnecessary for clients (a solution testing segment), a quick adjuster to changing client needs, and a stabilizer in times of financial crises or in underprivileged sectors of the job market (Lachiewicz & Matejun, 2012).

From the perspective of our analyses, which concern the possibility of introducing gamification into the HR function, of significance is the simplified management structure characteristic of SMEs. In these companies, organizational structure is frequently linear and based on direct and informal relations between manager/owner and employee, as an effect of which formal procedures are fewer. Manager/owner leadership style plays a vital role in SMEs (Franco & Matos, 2015), and some important connections have been discovered – e.g. with performance (Ling et al., 2008) or innovation creation (Gracia-Granero et al., 2015). Although the use of HRM practices in SMEs was found to be positively related to performance (Sheehan, 2014; Rauch & Hatak, 2016), the low formality of personnel processes characterizes all areas and functions in SMEs. Recruitment bases on recommendations (Lachiewicz & Matejun, 2012), while structure and level of remuneration are developed through personalized negotiations (Lachiewicz & Matejun, 2012), and are simple in form rather highly structured and formalized.

Other incentive systems include personalized motivating and individualized development and career paths – these do not favor the use of gamification systems, which of necessity are formalized and based on rules and formally characterized achievements. As employees of SMEs may be accustomed to traditional, not very formal forms of motivational solutions it is worth verifying whether this habit is not an additional barrier to introducing innovative motivation systems based on gamification.

Assumptions, hypotheses, and methodology of the research

Acceptance of chosen gamification solutions for HR management systems was tested using a questionnaire on employees' opinions. Thus, the study deals with a potential interest in changes being introduced in management systems, rather than with real reactions to such a change.

Acceptance of two different form of gamification systems was studied. Uncertainty, in other words not knowing whether a given action will lead to expected results, a component characteristic of games, has been incorporated into motivational systems in two ways. Firstly, into bonuses, through the rule that prizes are drawn by those who meet the criterion of "achieving a high level in the game" – i.e. variously valued performance. An analogous gamification system used by a trading company in Poland has been already described (Woźniak, 2015).

Secondly, the study considered two BLAP-type solutions based on collecting points – which could then be exchanged for non-material or material prizes. The rewards were comparable with other ways in which an employee could be distinguished, such as appreciation by the owner/manager (oral praise), being given specific types of jobs (e.g. teaching new employees), or being given a place on the company bulletin board.

The study was conducted in July 2016 on two groups. The first was a 73-person group of SME employees. All respondents worked, though only half had standard full employment. Of the other half, 5% had no formal employment and 20% were paid using short-term "product-based" contracts, which are not regulated by social security and employment laws. The remainder were employed mostly on a minimal wage with rest of their earnings paid informally (based on unwritten agreements and not taxed). Age was differentiated though the respondents were mainly young (60% were aged 18-26, less than 20% were over 35). The group was even gender-wise (33 men - 40 women); only about 20% respondents were educated below a BA level; 2/3s lived in Warsaw. About 1/3 of the companies had no bonus systems; 10% respondents declared they were fully satisfied with the bonus they received; 30% were quite satisfied. Distribution of satisfaction with wages was of a Gauss-type, dividing respondents into two equal halves, with a ca. 20% "no opinion" group. In practice, all worked in the services, though only half had direct contact with clients. Respondents were thus representative of the group of young alumni (half with BAs and half with full university degrees), employed in the services in a big city. We can, therefore, assume that their opinions will reflect those of the

personnel of certain kinds of SMEs, employed on precariat jobs that are easily accessible to young people in big cities.

The second, 100-person group were line workers of a discount chain with over 2000 stores in Poland. Each store employs several to 20 people and relationships between superiors and personnel are direct and individualized. Work in a huge organization, however, entails functioning within set procedures, which supplement these direct relationships. Women predominated in this group (60:40). The average age was higher (almost 50% were aged 31-40 years, and only 1/3 were younger), as was the tenure (15% of the respondents were employed for less than one year in the organization, about 35% from 1 to 5 years, and rest – over 5 years). Ca. 1/3 respondents had continued their education after graduating from secondary school.

The goal of the study was to verify whether chosen psychological and contextual factors favor accepting game-inspired solutions (deferred gratification in the form of (i) collecting points to be exchanged later for rewards, or (ii) developing their people-management skills, as a step towards managerial carrier), in comparison with face-to-face praise or small financial rewards. Additionally, respondents were asked to declare their readiness to accept drawn (randomly assigned) bonuses.

Two modifying variables were incorporated: (a) psychological – aversion to risk taking and (b) contextual – satisfaction with the current motivational system.

H.1. A greater percentage of respondents featuring any of the modifying variables will accept randomly assigned bonuses – in comparison with the remainder.
The first part of this hypothesis (1a, concerning risk taking) assumes that the readiness to take risks favors bringing about change in an important area of the employee role. At the same time, if new solutions are viewed as a change of traditions, they may meet resistance, and thus modify the effect of the readiness to take risks. The second part of the hypothesis (1b) states that dissatisfaction with the current remuneration system favors accepting change, i.e. randomly assigned bonuses. Hypothesis 1b is consistent with resistance to change theory – it is assumed that people who are dissatisfied with their current remuneration system, so specifical*ly those who have not recently received bonuses*, are more ready to accept changes.

H.2. SME employees are less ready than chain store employees to accept:
a) gamification in the form of drawing of individual or group bonuses;
b) deferred gratification type solutions for their work – whether in the form of collecting points to be exchanged for a reward, or other forms of deferred gratification.

Hypothesis 2 assumes that a managerial structure based on direct and personalized contact with one's superior creates a specific attitude, which makes it difficult to introduce procedures using deferred rewards that are guaranteed in only a formal manner. This hypothesis refers to the specific feature of SMEs described above, i.e.

the dominant role of owners and their views for shaping events. If such is the case, we may expect not only that SME employees are more unwilling to accept deferred gratification, but also that the owner's praise is more valuable for them than other forms of appreciation. This, in turn, leads us to hypothesis 3.

H.3. SME employees are more ready than chain store employees to:
a) accept managerial praise over deferred gratification type solutions for their work,
b) however, both groups prefer rewards of a financial nature – whether in the form of collecting points to be exchanged for a reward or other forms – over being distinguished in their group of colleagues by being given specific types of jobs (e.g. teaching new employees), or being given a place on the company bulletin board.

Although praise from the manager should be more important for SME employees than for those of discount chains, the owner's praise can be a signal of appreciation for achievements and may be seen by the employees as an introductory step towards other rewards. Hence, we can expect it to be treated as similar to more formalized types of appreciation, for example to gamification rewards. However precarious conditions of the SME employment favor the financial rewards over any other forms of appreciation, as well as the low-income employment in discount store chain, does.

For those working in a small team, where direct and personal relations are important, formal types of appreciation – in which the employee is distinguished among colleagues by being placed on a notice board or being given the task of controlling the work of others – will be given a low value by the employees of such companies. This will be especially the case for SME employees.

The data described below has been taken from research conducted by Ms. P. Kozak and Ms. M. Stolcman for their M.A. dissertations, written under my direction in the University of Finance and Management in 2016. I would like to thank my former students for giving permission to use their research results.

Research results

The hypothesis concerning low interest in randomly assigned (drawn) bonuses was confirmed using a direct question (*What bonus system is in your opinion the best kind of work motivator*), supplemented by a cafeteria of responses indicating the superior's role in assigning bonuses (from the practically automatic assignment, through discretionary bonuses, to bonuses drawn among people who "meet bonus-assignment criteria"). Only 7 out of 100 respondents from the chain store group preferred drawn bonuses, while 12 preferred regulated bonuses (which can be vetoed by a superior but is usually paid). The remainder accepted their managers' discretionary decisions. As was to be expected, satisfaction with the motivation system differentiated respondents – the group which chose drawing of bonuses had the highest percentage of persons dissatisfied with the current motivation system (6 were dissatisfied, 1 did not respond). Among the 12 supporters of regulated bonuses, only 2 declared dissatisfaction or "difficult to say", while 8 declared a low level of satisfaction. Among 63 supporters of a mix of regulated and discretionary

bonuses, only 1 was dissatisfied with the motivation system and 3 chose "difficult to say", although half of this group declared an average level of satisfaction. Contrary to expectations, differences between persons choosing the purely discretionary solutions and those preferring small, regulated bonuses were not large, as from among 18 persons in this group only 3 were either dissatisfied or chose "difficult to say", and 6 chose an average assessment.

These results – bearing in mind that the chain store company has only a discretionary bonus system – may be interpreted as confirming our hypotheses that dissatisfaction with the bonus system favors accepting drawing bonuses, as well as solutions differing from those currently used.

In response to direct questions, few persons accepted drawing bonuses. Therefore, to verify the dependence between greater readiness to accept drawing bonuses and contextual variables, an additional index basing on two forced choices was developed: choosing between individual (or team) bonus discretionally assigned by the manager, and randomly assigned among those whom the manager considers eligible. 31% were ready to accept drawing of individual bonuses, and 26% accepted drawing of team bonuses (where teams achieved team goals). An index was developed, assigning each respondent with a number from 0-3 depending on these three choices. Those who did not choose any response in favor of random assignment were given 0, and those who preferred random assignment both in the direct question and in the forced-choice questions were given 3 (there were 7 such persons).

Readiness to take risks was measured with the use of a projection-type question: *Do your friends think you take risks (like risky and uncertain situations)?*, evaluated on a 5-point Likert scale. It divided respondents into 3 groups, with 21 high risk takers (14 responding with "decidedly yes, and 7 with "rather yes"), 51 low risk takers (choosing "decidedly not" and "rather not"), with a third group of 28 people choosing "difficult to say".
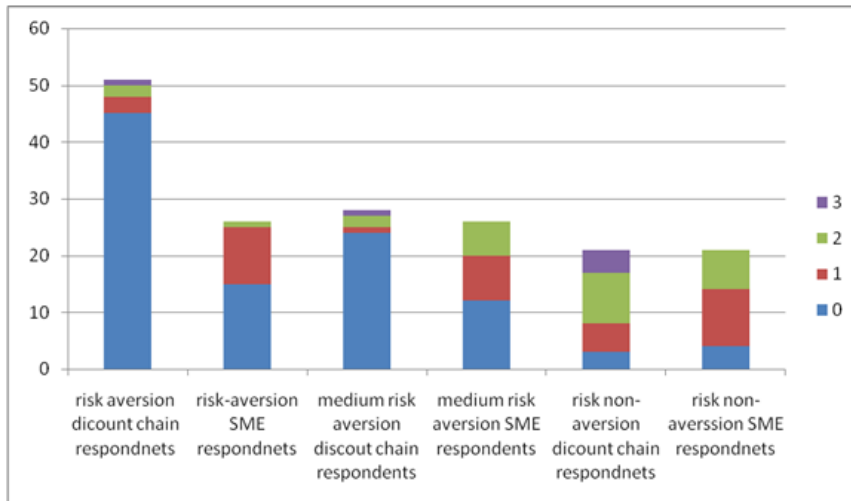
***Graph 1. The tendency to choose drawn bonuses among respondents differing with
respect to readiness to take risks***
(even columns – discount chain employees, n=100;
uneven columns – SMEs employees, n=73)

Source: Woźniak's elaboration based on data from Stolcman (2016) and Kozak (2016)

As can be seen in figure 1 above, risk-takers far more frequently choose responses
indicating their preference for drawn bonuses, measured with the index developed
for this analysis. The relationship is statistically significant for discount chain
employees, with a rho Spearman correlation of -0,426 – i.e. showing that decreased
risk-taking favors rejecting drawing bonuses – measured with a chi squared test of
33,262 (with 6 degrees of freedom this gives a statistical significance of p = 0,000).

73 respondents from SMEs were analogously tested. Because of lack of data, an
index was developed to measure acceptance of drawn bonus, basing on two forced-
choice questions – one concerning individual and the second team bonuses (so the
maximum value of the index for SME employees is 2). The relationship is
statistically significant, however weaker than for discount chain employees. For
SME employees (basing on two questions) rho Spearman correlation has value -
0,357 (p = 0,002) but measured with a chi squared test of 10,662 (with 4 degrees of
freedom this gives a statistical significance of p = 0,031).

Analogously, a strong relationship was shown between negative assessment of
current remuneration system (operationalized in several ways: as declarations that
salary is inadequate compared with work effort, too low to support a family, and
through direct questions) and tendency to accept drawing bonuses measured using
the above index. Dissatisfaction with remuneration system was shown to favor
accepting a drawn (random) bonus system (data omitted in this article).

The first part of hypothesis 2 can be tested negatively on the data we can see in
Table 1 below, as the differences in decisions between SME and chain stores are

small, and about 1/3 of employees in each of the groups choose drawn (randomly assigned) individual bonuses (as compared with 31% of chain store employees). However, the difference concerning the group bonus is larger – as 45% of SME respondents prefer drawn group bonuses over the traditional type of group bonus (compared to 26% in the chain store group – contrary to hypothesis 1a.

Table 1. Preference for drawing individual and group bonuses among SME employees (n=73) and the chain store group (n=100). Forced choice (The upper figure is for SMEs; the lower – for chain stores)

Question	Answer	Number of respondents choosing the answer	Percent of respondents in the relevant group
What type of individual bonus would you prefer, if there were no other choice?	Small individual bonus assigned by team superior on a monthly basis, depending on whether s/he decides the subordinate deserves it	50	68%
		69	69%
	Decidedly higher bonus, randomly assigned (drawn) from among those whom the superior assesses as deserving a bonus in the given month	23	32%
		31	31%
What type of group bonus you prefer, if there were no other choice?	Group bonus that is several times higher than a traditional group bonus, drawn by team members who achieved individual goals, and their team achieved their team goal	33	45%
		26	26%
	Group bonus on a previously set level for every team member (independently of individual results), dependent on whether the team met its team goal (e.g. total sales for the team)	40	55%
		74	74%

Source: Woźniak's elaboration based on data from Stolcman (2016) and Kozak (2016)

As the study considered two BLAP-type solutions based on collecting points – which could then be exchanged for non-material or material prizes – a chosen list of typical rewards was prepared for this comparison. The rewards were comparable with other ways in which an employee could be distinguished, such as appreciation by the owner/manager (oral praise), being given specific types of jobs (e.g. teaching new employees), or being given a place on the company bulletin board. Data were collected by 12 forced-choice questions, where each item compared oral appreciation from the manager or small financial rewards with more "impersonal" rewards (visible, but not connected directly with an oral praise from the manager). Some of these impersonal items were directly based on BLAP systems (see items in the table 2 below, where items C, D, and L used financial rewards based on BLAP-type gamification and B, E, K – non-financial BLAP), some on traditional but impersonal rewards. Non-gamification items were prepared to compare small financial rewards and specific types of job preferences of respondents.

Hypothesis 2b and 3 were tested basing on the distribution of responses to forced-choice questions (between A and B). These are shown in the table below for employees of SMEs (upper figure) and chain stores (lower figure).

Table 2. Preferences of respondents concerning motivation systems (SMEs=73, n=100)

	Response A	A	Response B	B
A	Oral appreciation	43 39	Permanent information concerning achievements (e.g. public information board, official announcement among all employees)	30 61
B	Direct oral appreciation	19 32	Collecting points which can be exchanged for a non-financial reward (e.g. additional training, diploma)	54 68
C	Direct oral appreciation	15 27	Collecting points which can be exchanged for a financial reward	58 73
D	Being distinguished on public information board (prized employees)	3 12	Collecting points which can be exchanged for a financial reward	70 88
E	Being distinguished on public information board (prized employees)	4 32	Collecting points which can be exchanged for a non-financial reward (e.g. additional training)	69 68
F	Oral appreciation	31 43	Being assigned a new employee, who is to be taught the job	42 57
G	Oral appreciation	12 37	The possibility of managing a small team during chosen tasks	61 63
H	Small financial reward	8 42	Managing a small team during chosen tasks and the possibility of promotion	65 58
I	Work on an interesting task which helps develop competencies	34 62	Small financial reward	39 38
J	Oral appreciation	26 43	Responsibility for teaching new employees, with no change in salary or work contract	47 57
K	Oral appreciation	16 31	Obtaining points for excellent work at monthly work appraisals; with time these can be exchanged for non-material rewards (e.g. title of "employee of the month", additional training, etc.)	57 69
L	Oral appreciation	16 29	Obtaining points for excellent work at monthly work appraisals – when very many of these have been collected, they may be exchanged for a material reward	57 71

Source: Woźniak's elaboration based on data from Stolcman (2016) and Kozak (2016)

As can be seen from table 2 above, oral appreciation is relatively rarely chosen as a motivator and "loses" against every BLAP-type gamification, both material (B) and

non-material rewards (C). It is only chosen over appreciation before an audience on "public bulletin boards" (A) – and here the difference between SME and chain store employees are the greatest, as the former seems to assess this kind of appreciation slightly higher. At first glance, the higher preference of the chain store employees (compared with SME employees) for non-material prizes against the chance to develop new competencies and career paths (F, G, J) seems astonishing; this can be explained by the higher age of this group of respondents. To summarize, contrary to hypothesis 2b, the differences between these two groups are not large, and for 2/3 of the employees in both respondent groups, BLAP-type solutions can be envisaged as an acceptable form of appreciating work, no worse than oral appreciations which are used on an everyday basis in small companies.

Nevertheless, oral praise is not chosen more often by SME employees over other forms of appreciation than by the chain store employees. Contrary to hypothesis 3, a similar percentage of respondents from both groups (20-30%) prefers oral appreciation over BLAP-type rewards. It should be stressed that the differences between both groups, and between their preferences towards both types of BLAP gamification (with material or non-material type of rewards) are small.

It should be observed that few SME employees choose a small financial reward if this is set against managing a small team (I) or even working on an interesting task which helps develop competencies (J, ca. 50%). Nevertheless, both BLAP types of gamification are more often chosen over being distinguished on a public information board, especially by SME employees, which corroborates the second part of hypothesis 3. Contrary to the second part of hypothesis 3, the financial value of reward in BLAP type of gamification does not add many respondents that prefer the gamification system rather than traditional big company's appreciation tools, as "being distinguished on public information board".

Discussion and conclusions

The above text analyses potential barriers that may be encountered when introducing gamification in small enterprises, as an effect of the role the owner plays. Employees in businesses of this kind are not used to formal HR procedures, and their attitude towards using gamification in motivational systems (both in the case of points collected to exchange for material or non-material rewards, or concerning rewards that are randomly assigned among a pool of employees the owner considers eligible) may, therefore, be negative.

To analyses attitude towards gamification of these two different types, two different types of uses of gamification in motivational systems were distinguished. The first assigns points for realizing chosen tasks, which can then be exchanged for material or non-material rewards (BLAP-type gamification). In the second, employees who meet targets draw individual or group bonuses – this incorporates elements of a random-based nature into motivational systems and differs procedurally from the traditional approach, in which superiors classify employees

to a group eligible for distinction on a discretionary basis. When prizes are drawn, their value can be increased (which in turn should increase their motivating function). Additionally, bonus costs can be planned at the same time as goals are set, so we can expect this kind of solution to be convenient for enterprises.

A questionnaire was conducted to ascertain whether employees who are used to formal procedures favor gamification to a greater extent than people who work in an environment where contact with superiors is also personal but there are no formal procedures. 100 employees of a chain of stores who work in small teams based on personal relationships, and 73 employees of SMEs were tested. The results show that psychological variables (such as willingness to take risks) and organizational context (dissatisfaction with current bonus system) all exert an influence on the level with which drawn bonuses are accepted. Acceptance of random assignment is not high in the case of any of these variables, but nowhere does it reach zero values. We have therefore shown that incorporating gamification into motivational systems in the form of randomly drawn bonuses is possible and acceptable for some of the employees of companies in which the "owner/manager/director" plays a central role, and in which relationships are personalized.

The study also shows that in both groups, for most employee's points (regardless of whether they are exchangeable for rewards of a material or non-material nature) are preferable to oral appreciation. This signifies that regardless of whether they are used to procedures, both groups are also ready to accept BLAP-type gamification rewards, at least as an additional appreciation tool. Relatively low differences between material and non-material BLAP gamification suggest that non-material gamification could be introduced as a first step in verifying the extent to which gamification systems could be incorporated into motivational tools.

The result of the research suggests that the main barrier to introducing gamification in SMEs is a lack of managerial knowledge – and not the fact that employees are not used to formalizing procedures or prefer individual relationships with managers. Data from an incidental group of respondents cannot be a strong argument in favor of the openness of SME employees to gamification solutions; however, it gives a more optimistic outlook on the possibility of incorporating gamification in these companies than theoretical analyses would suggest.

It should be emphasized that the study – even if its results can be generalized – does not provide information concerning real reactions to gamification or the motivational effects of introducing gamification solutions into remuneration systems. The study is based on opinions concerning a hypothetical situation, and so can only provide an argument in favor of attempting to verify whether similar results would be obtained in the case of real experience with such motivational systems. As basing on hypothetical opinions is the main limitation of the current study, it should be treated as an invitation to conduct further experiments.

Bearing in mind the limitations of the study, we would like to emphasize several practical implications of the study. Firstly, the study shows that gamification – both BLAP-type, as random draws – can also be introduced in SMEs without fear that the lack of experience with organizational procedures will be a significant barrier for its motivating function. This unexpected conclusion seems to signify that contemporary employees, independently of their professional experience and the extent to which their workplace is proceduralized, have sufficient day-to-day contact with games to be able to understand the consequences of game rules and to be ready to participate in systems that use gamification.

Secondly, the study clearly delineates situations where introducing such motivational tools is worthwhile – e.g. it indicates that a lack of satisfaction with existing bonus systems favors accepting gamification. At the same time, it shows that accepting gamification solutions in motivation systems is modified by a propensity to take risks. This – a third significant, practical suggestion – shows that in situations when an employee cannot afford to risk earning a lower salary, random-based gamification solutions should be avoided and replaced by BLAP systems. A fourth important recommendation concerns the order in which gamification solutions should be introduced, in cases where management is uncertain about the extent to which employees are ready to engage in risky behaviors – it seems safer to commence introducing gamification with BLAP type solutions, than with gamification based on draws of a random nature.

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