



Happy Job Methodology for Employee Engagement and Commitment Evaluation

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Abstract

Employee engagement and commitment are becoming increasingly important for business performance and are able to affect competitive advantage of a company directly. Thus, reliable evaluation of engagement and commitment is one of the primary HRM tasks nowadays. However, most of methodologies, used by HR specialist for engagement and commitment evaluation, are becoming obsolete. Moreover, despite the wide range of modern digital technologies and trends, the market still lacks the digital tool for optimized engagement evaluation surveys conduction. In this paper, the authors proposes the new methodology for engagement and commitment evaluation and describes the digital platform based on the proposed methodology.

Keywords: Employee engagement; organizational commitment; surveying methodology.

1. Introduction

The concept of human resource management (HRM) is constantly evolving, continuously gaining significance for business performance. Modern practices reflect two global trends in this evolvment: widespread adoption of digital technologies and emphasis on intellectual capital, pertaining to knowledge economy. These trends are identified both by management science community [1] and by practicing human resource managers [2].

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Digitalization affects all functional areas of human resource management, from recruitment and training to performance evaluation and behavior analytics. According to [3], despite all cutting-edge technologies, on average companies do not take advantage of repetitive processes automation in 50% of cases. At the same time, the research of Hewitt Associates shows in [4] that HRM processes automation along with implementation of transformational strategies can lead up to 20% cost reduction. The second trend – growing significance of intellectual capital as related to a company’s performance in knowledge economy – is transforming the role of a person within a company and his/her impact on business development. Intellectual capital significantly affects company’s competitive advantage [5]. One of the main factors in raising the effectiveness of an organization during the transition to a knowledge economy is the enhancement of each employee’s involvement in the activities of their organization. Wide range of researchers [6,7] have conducted empirical researches, which revealed that employee engagement level negatively correlates with the level of staff turnover, emphasizing the necessity of proper employee engagement evaluation and management. Considering the previous studies, the authors would like to describe the state of art, considering both theoretic and practical view. Interpretations of engagement and commitment in literature are rather vague and sometimes overlapping. Despite the diversity of definitions, most of them are based on concept proposed by W. Kahn. In his fundamental work [8], W. Kahn consistently leads to the idea that there is a strong necessity to examine and evaluate the extent to which workers are “psychologically present” in mastering the roles they perform at work. When employees are engaged, they invest more heavily in fulfilling their roles in the organization. Thus, engagement is defined by him as the level of energy, devotion and “absorption” by the employee of the company. Kahn found that high employee engagement leads to better quality of work, growth and development of business performance [9]. The work of A. Saks is also worth mentioning: his ideas in many ways are similar to W. Kahn’s theory, but he contributed significantly [10] by differentiating the types of engagement – A. Saks distinguished job engagement (the way an employee treats his/her role while executing a certain job) and organizational engagement (which refers to the performance of employee as a member of the organization). In this paper, organizational engagement is of primary interest. As highlighted in [11] employee engagement concerns his/her well-being and work behavior. Commitment, or loyalty, is explicitly explained in [12] as “worker’s desire to belong to an organization, and his/her willingness to make an effort in its interest”. Another approach to commitment definition is presented in [13]: the author considers employee commitment as something that bonds a worker to the organization and gives him/her feeling of being fit and understanding goals within organization. B. Wainwright also reveals the difference between engagement and commitment, showing that the former is more about work without connection to a company, and the latter is focused on organization reference to employee’s work. This view is confronting classic A. Saks’s understanding of engagement, which is also accepted in this paper. Another issue, which attracts researchers’ attention, is generation theory and impact of its postulates on HRM. Generation theory was initially proposed by N. Howe and W. Strauss in [14]. The core idea of this theory is the division of mankind into generations, each generation having unique features, values and points of view. Many specialists examine the effect of generation changing on HRM practices and employee’s behavior along with attitude to work and organization. For example, in [15] authors examine the potential of generation theory for improvement of modern HRM practices through individual approach to employee based on better understanding of their lifetime values. The other researchers [12] conducted detailed comparison of generations, built aggregate engagement models for generations X and Y, and, as a result, distinguished important work-connected factors

for these generations. Their research proved that factors affecting engagement and commitment change with the alternation of generations, and those techniques and assumptions about commitment and engagement evaluation and management, which were developed more than 20 years ago, significantly lose their relevance and effectiveness today. In [16] it is highlighted that innovative work practices and “high-involvement” workplaces encourage employees to work with more interest, dedication and, as a consequence, greater effectiveness. Moreover, according to K. Nardi’s work, firms currently view engagement as a compulsory aspect of business and spend significant sums of money (up to \$1 billion per year) to increase employee engagement [17]. According to the report of the State of the American Workplace of the consulting company Gallup in 2017, companies increase their competitive advantages precisely in the case of high level of employees engagement in the work. This view is also stated in [18]. Among the classic approaches to employee engagement evaluation are widely known UWES and Q12. Utrecht Work Engagement Scale (UWES) was proposed by W. Schaufeli and A. Bakker [19]. This scale is based on the questionnaire that examines three key areas of engagement: vigor, dedication, and absorption. In the initial version, about 25 questions are applied, but in practice, an abridged version with 9 points (three in each direction) and a scale from 0 to 7 is more often used. There is also an option with 17 questions. Another popular approach is the Gallup Workplace Audit Institute questionnaire. The Gallup analyzed the criteria for employee engagement and, as a result, the Q12 scheme was proposed – a questionnaire consisting of 12 questions with a scale from 0 to 5. It is worth noting that the popularity of approach does not always correlate with its high quality. Some researchers made some comments about the use of established methods. Thus, for example, in [20,21], the authors doubt in the validity of the UWES technique. The results often turn out to be mixed, and he argues that constant testing of the method used and careful comparison and analysis of the results are necessary. Concerns about the reliability of this scale were also expressed in the study [22]. HR-specialists demonstrated demand in present-day solutions, which are considered in [23]: annual survey, periodic survey, pulse-surveys, interviews and focus-groups, social networks monitoring and other. Apart from engagement, commitment also needs to be evaluated. According to results of empirical research, conducted in [24], commitment and organizational performance are strongly related. One of the widely acquired and used metrics of commitment is employee net promoter score (eNPS), which is based on NPS metric [25], developed by Bain & Company and Fred Reichheld. Examination of business blogs revealed that the eNPS metric is a modern and powerful tool of commitment evaluation and classification of all employees to 3 categories: “Promoters” (the most loyal workers), “Passives” (treat company neither positively nor negatively) and “Detractors” (negative promoters). Organization’s eNPS is counted by subtraction from the percentage of “Promoters” the share of “Detractors”, also in percent. The example of proper application of the eNPS, demonstrating the power of the metric and insights about commitment level that employers can derive, is presented in [26]. One more aspect of modern HRM, which is described predominantly by consulting agencies and HRM-practitioners, is the rapid development of HR technology market [27]. A wide range of vendors, tools and applications can greatly assist HR-managers with their tasks. As Deloitte experts highlight, up-to-date HR technology provides specialists with the opportunity to use digital tools for surveys’ conduction and processing, engagement evaluation, execute performance management, etc. In general, digital HRM products allow organizations to get “better real-time view of the employee experience”. To summarize, according to works of HRM theoreticians and practitioners, the concept of human resource management is rapidly changing and constantly developing, although several almost obsolete practices are still sometimes used. The change of

generations entails a gradual paradigm shift – today's workers are significantly different from yesterday's ones. Modern employees have different values and priorities that cannot be properly evaluated with tools from the last century. Engagement and commitment nowadays are in business's attention focus – more and more researchers and companies state the necessity of engagement and commitment evaluation and management, and develop approaches and tools for correct evaluation. The trend of digitalization assists them a lot – current technological capabilities open new opportunities for effective and time-relevant HRM practices of engagement and commitment evaluation. The aim of this article is to make an impact on understanding of employee engagement, examine modern approaches, techniques and tools of employee engagement evaluation, which are available to business. This paper is also aimed at introducing new HR-technology solution based on methodology of engagement and commitment, or loyalty, evaluation, and providing the results of practical validation of the methodology on Russian medium and large companies. The paper consists of 5 major sections including introduction. The second section is focused on materials and methods, which were used for conducting the research and developing the methodology. In the third section, the results of Happy Job methodology application are presented. In the fourth section, the authors provide broad discussion of the topic and developed methodology. The conclusion of the research is also included in the fourth section. The last section contains references.

2. Materials and methods

Development of the Happy Job methodology was initiated after the field research, conducted by the author and his colleagues in 2012. During the field research employees' engagement of 3 Russian companies was evaluated by means of several most popular evaluation survey approaches: classic Gallup Q12 (12 traditional questions) and UWES (15 traditional questions) and approach proposed by IES (40 questions) in 2003 [28]. Since these methodologies are foreign for Russia, for proper usage they were translated, adapted and standardized on sample consisting of Russian employees. There were 2297 respondents in total, representing different job positions, education levels and age groups. All surveys were conducted under condition of participants' anonymity. The data, collected during the study, is presented in Table 1.

Table 1: Field research: comparison of engagement evaluation methodologies

Company	Engagement evaluation approach	Number of participants of test survey	% of completed test surveys	Number of participants retest survey (in 3 months)	% of completed surveys in 3 months	Test-retest reliability (%)
Company 1 (production)	Q12		83		81	51
	UWES	804	92	800	90	47
	IES		65		63	48
Company 2 (retail)	Q12		100	624	100	71
	UWES	650	100		98	68
	IES		87		87	62
Company 3 (insurance)	Q12		91	828	90	53
	UWES	843	89		80	64
	IES		77		69	49

The test-retest survey reliability, mentioned in the Table 1, was estimated as average correlation between

participants’ answers, given the first time survey was conducted and then 3 months later during retest surveying of the same employees. Number of participants for retest survey was lower due to staff turnover in the companies. Summarized results of the research are presented in the Table 1.

Employees’ level of satisfaction with surveys and HR-managers’ level of satisfaction with survey results were estimated after each of three surveys. Each of participants were asked to answer anonymously three questions, listed in the Table 2. In each company, two HR-managers were invited to participate in the field research and were provided with surveys results, and then were asked to answer three questions, which are also presented in the Table 2. The results of the field research depicted low test-retest reliability of all three engagement evaluation approaches. Moreover, the results for the IES methodology, which contains 40 questions, are particularly low in views of percentage of completed surveys and overall participants’ and HR-managers’ satisfaction. The in-depth analysis of the research results and interviews with randomly selected participants allowed the author to come to the following conclusions: first of all, long wording of questions confuse participants and reduces susceptibility to information. Then, the longer the survey lasts, the less motivation has a respondent to complete it. Moreover, participants spend less time understanding the question than thinking about the answer that the manager wants to hear from them. Finally, many respondents consider surveys as an uninteresting waste of time. These conclusions served as initial motivation and basis of development of Happy Job – new engagement and commitment evaluation methodology. The realization of methodology application was decided to execute through a digital platform, which would allow surveys conduction, tracking and results processing by machine learning (ML) and artificial intelligence (AI) technologies.

Table 2: Estimation of employees’ and HR-managers satisfaction with the surveys

Questions to surveys participants	Questions to HR-managers
Did You find the questions clear and easily understandable? Please, rate from 0 (absolutely unclear) to 10 (absolutely clear)?	From Your point of view, were participants honest while answering the question? Please, rate from 0 (absolutely dishonest) to 10 (absolutely honest)
Was Your motivation to complete stable during the survey? Please, rate from 0 (I became unmotivated and did not complete) to 10 (I completed the survey fully and was stably motivated)	Do obtained results (evaluated engagement level) correspond to results of other/previous Your evaluation? Please, rate from 0 (new results are absolutely different) to 10 (I got similar results before)
Did You answer the questions consciously and honestly? Please, rate from 0 (I did not care and answered “automatically”) to 10 (I answered all questions honestly)	From Your point of view, does used engagement evaluation approach meet current trends and the present day? Please, rate from 0 (it is obsolete) to 10 (it is absolutely relevant and up-to-date)

Processing of HR-managers and employees’ post-survey answers resulted in the following Figure 1.

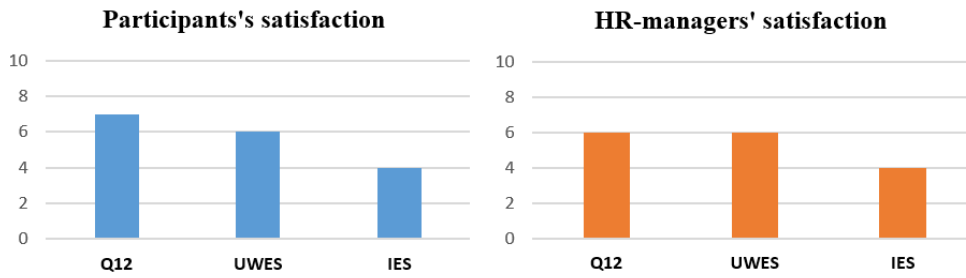


Figure 1: Participants’ and HR-managers’ satisfaction with engagement evaluation approaches

The methodology is based on the cognitive load theory and modernized approach to online surveys conduction. The theory was proposed in [29] and postulates that “working memory” is limited, and this fact is needed to be considered in the process of instructional or survey design. According to Sweller’s ideas, quality of responses and performance in general can be essentially lower if a respondent is cognitively overloaded. Sweller’s research has proven that long and complicated surveys, which increase cognitive load of participants, result in concentration lost, motivation decrease and overall quality decline. In order to reduce the cognitive load of respondents, to keep their attention and, therefore, to improve the quality of engagement and commitment evaluation results the traditional wording of questions were reviewed and changed, and the volume along with duration of the anonymous survey were optimized: for annual evaluation – questionnaires that would take not more than 7 minutes; for pulse-surveys – not more than 12 questions at once. The shortened example of one of Happy Job surveys offered to employees is provided in the Table 3.

Table 3: Example of one of surveys offered to employees during engagement evaluation

Question wording	Answer options
Please, evaluate stress level at your workplace.	Interactive evaluation by 5-point scale
How does work on complex projects or tasks in a company begin?	<ul style="list-style-type: none"> ● First a plan is drawn up with supervisor ● Everyone plans himself/herself
Do you often think about changing your job?	Interactive 5-point star rating <ul style="list-style-type: none"> ● High level
How do you assess the level of remuneration for your position?	<ul style="list-style-type: none"> ● Equal to the market average level ● Below the market average level ● Not satisfied at all
Do you have any ideas you want to share?	Open question

Types of questions vary – participant are invited to choose one of the answer options, rate or evaluate different aspects of their work. Another distinctive feature of Happy Job methodology is gamification of surveys, which is not provided by other online engagement evaluation tools. As it was mentioned in the previous section, gamification allows gaining more transparent and reliable results of assessment due to higher respondent involvement. Among the elements of gamification used by Happy Job application there are progress-bars, sliders, star ratings, animated pictures. Example of entertaining questions with gamified elements is presented by the Figure 2.

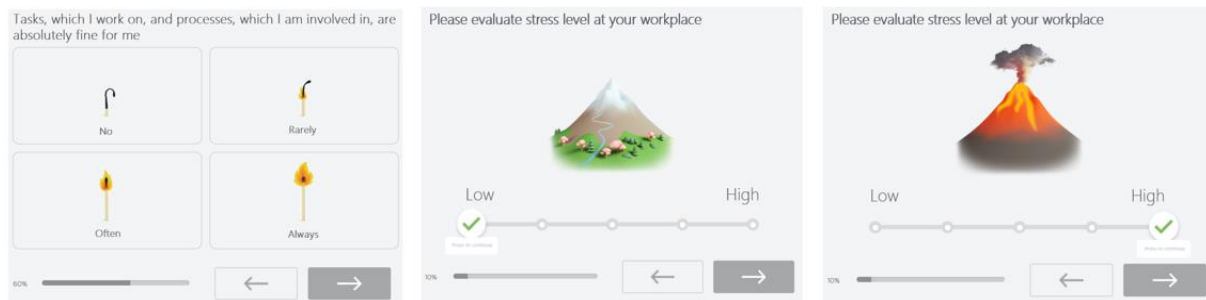


Figure 2: Elements of gamification in Happy Job surveys: card-choice question and slider

To investigate the impact of gamified elements on participant’s attention and motivation retention, his/her involvement and susceptibility to questions, the special research survey was organized and conducted offline and online. Totally 385 participants were invited to compare a survey of traditional format to the survey with gamified elements. The comparison survey was organized both offline and online: for offline session 85 representatives of different age groups (in the range of 19-70 years) and work positions (top managers, linear managers, production and office employees) were invited, given the tablets and asked to complete two surveys of different formats containing the same questions. Similar procedure was organized online. According to the results of investigation, participants find Happy Job gamified surveys to be 9 times more interesting and almost 10 times more involving than traditional surveys, which is illustrated with Figure 3. Moreover, more than 75% of offline survey participants, interviewed after the comparison session, underlined that they were not thinking about the socially expected answer and were motivated to continue answering due to gamified elements.

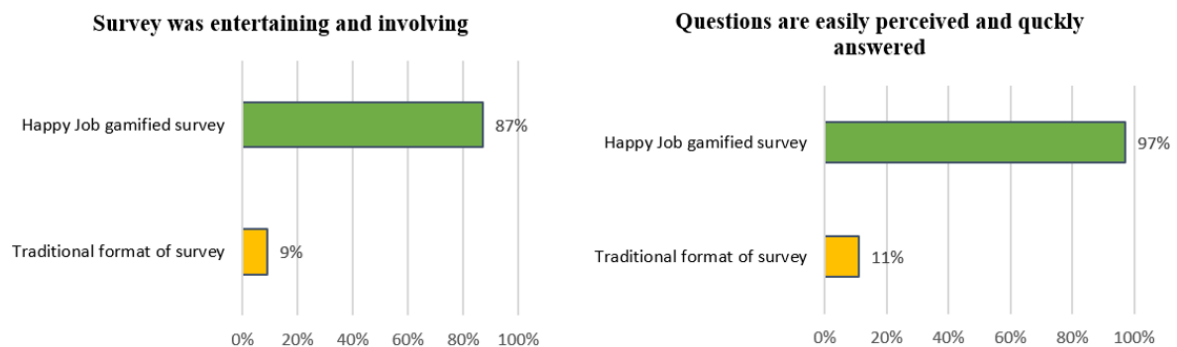


Figure 3: Results of comparison survey of traditional format to gamified Happy Job survey

Evaluation of employee engagement is separate from commitment evaluation. Employee engagement is evaluated by means of 10 metrics with further division of each metric to 5 sub-metrics, which provides HR-managers and chiefs with detailed information. The metrics were developed on the basis of recognized management concepts: motivation theory, strategic management, change management and HR management fundamentals. Initially there were more metrics and their formulations were vaguer, however, during the methodology refinement they were simplified and aggregated in the 10 main metrics: Leader, Acknowledgement, Processes, Colleagues, Career, Strategy, Feedback, Changes, Balance, Working conditions and salary. Each survey provides participants with an opportunity to share his/her feedback anonymously. Texts are then analyzed with machine word processing so that HR-managers are able to get reliable information about the topics and concerns that are mentioned most often. When there is enough volume of statistical information gathered, the platform applies AI and ML algorithms to process data and create predictions automatically, which provides accuracy and gives the most unbiased result due to the exclusion of the human bias factor. The process of commitment evaluation is similar to employee engagement evaluation in many ways. Evaluation is based on application of eNPS: one of the Happy Job commitment metrics fully reflects eNPS metric, and the other ones are associated with it. Commitment evaluation is conducted through 5 metrics: Is Proud, Stay in future, Recommends, Stays now, Strives. After an employee finishes the commitment survey, the metrics are calculated and this employee is assigned to one of traditional for eNPS categories: “Promoters”, “Passives” and “Detractors”.

3. Results

Validation of the methodology and testing of the platform were conducted in different directions. First of all, the quality of survey can be tested through estimation of for reliability and validity [30]. Reliability test was conducted by Cronbach’s alpha on the set of 4,780 randomly chosen responses. Calculated result demonstrated 94% while acceptable level for Cronbach’s alpha is 70% [31]. Different types of validity were also tested: research using focus groups confirmed the substantive and conceptual validity and proved that all respondents (278 participants in 14 focus groups) understand the meaning of the question and give answers that are fully consistent with the subject of study. For evaluation of empirical validity, it was decided to use external indicator – work plan fulfillment, the obtained result was also satisfying. Finally, predictive validity was evaluated by comparison of engagement metrics values to percentage of employees who decided to leave a company. The result of such comparison showed 87% predictive validity of the Happy Job survey approach. Practical validation of the methodology and platform on Russian companies’ employees demonstrated that 98% of Happy Job survey participants are satisfied with the survey experience (based on opinions of 264 000 participants, who were asked questions, mentioned in Table 2); 93% of HR-specialists in focus group highlighted survey usage convenience and reliability (based on opinion of 350 HR-managers, who were asked questions, mentioned in Table 2); In 2019, Russian insurance Company applied Happy Job methodology and used the platform for the first time. Previously, the Company used Gallup Q12 methodology to evaluate engagement of its employees, and was dissatisfied with discrepancy between the results of the survey and the actual behavior of employees and their attitude to the organization and their responsibilities. Test-retest reliability of applied in the Company methodology was 76%, and levels of employee and HR-managers satisfaction, estimated by survey, provided in Table 2, were 83% and 71% respectively. Among 2 404 employees, who took part in the engagement evaluation

through Happy Job platform, there were staff members of different ages and job positions: Top managers - 71 people, Heads of divisions - 124 people, Heads of departments - 453 people, Employees without subordinates - 1 756 people. The respondents' ages ranged from 21 to 69 years, the largest age group was 25-45 years. Employee engagement evaluation lasted 10 weeks, each week participants received 5 questions in the platform and was given 5 days to complete the survey. Examples of the questions are provided in Table 4. After 4 months, the retest session took place and test-retest reliability was estimated. The results of the evaluation are presented in the Table 5.

Table 4: Engagement evaluation in the Russian insurance company

Job position	Number of participants of test survey	% of completed test surveys	Number of participants of the survey	% of retest surveys	Test-retest reliability (%)
Top managers	71	100	70	100	95
Heads of divisions	124	100	124	100	96
Heads of departments	453	97	448	99	96
Employees	1756	94	1734	93	92

4. Discussion

In the paper, the need for new approaches to measure and develop engagement and commitment was discussed in detail. There are plenty of new technological tools, which assist HR-manager in engagement evaluation and management indirectly. Gamification nowadays is widely used in HRM. According to [32], almost 90% of employees believe that their productivity would increase if there were more gamified elements in their work. Various empirical researches demonstrated positive impact of gamification on employee engagement and commitment themselves in [33] and ability to bring more transparent and better results of group assessment [34]. The second approach is conveyed by a group of tools for improving communications within teams and between them. This shift to conduction of work in teams causes new aspects that need to be addressed: for example, role of a person in a team, solution of misunderstanding and mistrust problems, organization of effective communication, etc. There is a wide range of digital tools for team communication improvement, starting with project management tools and ending with messengers for informal chats between colleagues. Machine Learning (ML) and predictive analytics are two tightly connected technologies. ML is a set of algorithms that are able to build reliable analytical models, which are training on sets of similar tasks and improve quality of predictions and classification through gaining experience. According to the Censuswide survey, conducted by MHR Analytics in 2019, HR-managers are interested in ML and predictive analytics usage in their practice. Artificial Intelligence (AI) opens new prospects in business and in HRM particularly. AI is a technology able to provide human-like task solutions. Apart from assistance in staff recruiting, AI can help HR-managers to track employee's computer activity, web history, work messages and behavior, and adjust retention strategy based on this information. The other valuable application of AI – bias identification, reduction and

prevention, setting more healthy and rewarding atmosphere. Employee engagement and commitment have become ones of the most important aspects of HRM and organization performance. As it was considered above, researchers and business practitioners recognize sharp necessity in evaluation of engagement and commitment and demonstrate growing demand for methodologies and tools that can provide correctness and reliability of such evaluation. Despite the rapidity of HR-technology market development, available at the moment solutions are based on outdated methods and do not fully exploit modern technologies capabilities. The lack of effective digital tools for engagement and commitment evaluation encouraged the creation of Happy Job methodology and platform, which combines entertaining and gamified engagement and commitment evaluation through surveys and further processing of the results with application of Artificial Intelligence and Machine Learning algorithms. The methodology reliability and validity were proven by different tests described in the fifth section of the article. Happy Job methodology was used for engagement and commitment evaluation of more than 2.7 million participants, whose feedback highlighted novelty, convenience and understandability of the methodology and digital platform. Among the main directions of further development, the author recognize increasing usage of more advanced AI-based algorithms for evaluation results analysis and creation of industry-specific versions of surveys and HR-managers guidebooks in order to address the recommendations specificity limitation. The study has several significant limitations, which are caused by methodology constraints. First of all, the sufficiency of size of the sample of employees that was used for comparison of engagement evaluation methodologies and for methodology testing is arguable and the conclusions that were derived from the researched are based only on empirical evidence and are not proved statistically. The second limitation is the limited access to respondents that were under the research due to their occupational activities within companies that they worked on. Moreover, some experts cast doubt on the test-retest approach to measure the reliability. Therefore, to address these limitations the authors suggest further study of the engagement evaluation and application of the developed Happy Job methodology. During the further researches, the authors are going to widen samples of surveyed employees and conduct surveys in companies of different sizes and from different industries. As for the reliability metrics, the authors are going to also consider parallel-form reliability, split-half reliability and Cronbach's alpha for every survey along with different approaches to survey validity assessment.

5. Recommendations

According to the results of conducted researches, engagement and commitment evaluation are extremely important not only for HR-managers, but for business administrators on the whole. The correct and full understanding of level of actual employee engagement is crucial for business performance management and for development of a company. Since many engagement and commitment evaluation methods are becoming obsolete and do not correspond to digitalization trend, the authors have developed their own surveying methodology. Therefore, the authors recommend regular and relevant evaluation of employee engagement and organizational commitment by HR-managers with usage of modern tools. The author also recommend to include gamified elements to the surveys and separate the long surveys into shorter parts in order not to overload cognitively the respondents.

Citations and Reference

- [1]. R. Fenech et al. "The Changing Role of Human Resource Management in an Era of Digital Transformation." *Journal of Management Information and Decision Sciences*, 2019
- [2]. KPMG. "Future of HR 2020: Which path are you taking?" Internet: <https://home.kpmg/xx/en/home/insights/2019/11/future-of-hr-2020-key-insights.html>, 2019 [Apr. 12, 2020]
- [3]. Randstad. "Five strategic measures through which HR can reduce costs". Internet: https://www.randstad.in/workforce360/archives/five-strategic-measures-through-which-hr-can-reduce-costs_245/, 2018 [Apr. 11, 2020]
- [4]. A. Borland et al. "Ten HR Administration Cost-Reduction Strategies for Tough Economic Times". Internet: <https://www.aon.com/attachments/thought-leadership/>, 2018 [Apr. 12, 2020]
- [5]. A. R. Abdulaali. "The Impact of Intellectual Capital on Business Organization." *Academy of Accounting and Financial Studies Journal*, 2018
- [6]. G. Biswakarma, "Employees' Job Engagement and Turnover Intentions in Nepalese Private Commercial Banks-An Empirical Evidence." *Asian Journal of Research in Business Economics and Management* 5.11: pp. 61-78, 2015.
- [7]. C., van Mil. "The Relationships between Employee Engagement, Turnover and Sickness Absenteeism." Internet: <http://arno.uvt.nl/show.cgi?fid=147548>, 2018 [Apr. 14, 2020]
- [8]. W. A. Kahn. "Psychological conditions of personal engagement and disengagement at work." *Academy of management journal* 33.4: pp. 692-724, 1990
- [9]. W. A. Kahn. "To be fully there: Psychological presence at work." *Human relations* 45.4: pp. 321-349, 1992
- [10]. A. M. Saks. "Antecedents and consequences of employee engagement." *Journal of managerial psychology*, 2006
- [11]. S. Sonnentag. "Recovery, work engagement, and proactive behavior: a new look at the interface between nonwork and work." *Journal of applied psychology* 88.3: p. 518, 2003
- [12]. P. Horváthová et al. "Evaluation of the employees' engagement factors importance methodology including generation Y." *Economic research-Ekonomska istraživanja* 32.1: 3895-3917, 2019
- [13]. B. Wainwright. "What is employee commitment?". Internet: <https://www.effactory.com/knowledge/what-is-employee-commitment/>, 2019 [Apr. 14, 2020]
- [14]. W. Strauss. "The cycle of generations." *American Demographics* 13.4: pp. 24-33, 1991
- [15]. N. Nikitinsky et al. "Generation theory in HR practice: text mining for talent management case." *Proceedings of the International Conference on Electronic Governance and Open Society: Challenges in Eurasia*. 2016
- [16]. C. Ichniowski et al. "What works at work: Overview and assessment. *Industrial Relations.*" *A Journal of Economy and Society* 35.3: pp. 299-333, 1996
- [17]. K. Nardi. "Why Employee Engagement Matters and What You Can Do About It." Internet: <https://www.td.org/insights/why-employee-engagement-matters-and-what-you-can-do-about-it>, 2019 [Apr. 14, 2020]

- [18]. B. Joo et al. "Best employer studies: A conceptual model from a literature review and a case study." *Human resource development review* 5.2: pp. 228-257, 2006
- [19]. W. B. Schaufeli et al. "The measurement of engagement and burnout: A two sample confirmatory factor analytic approach." *Journal of Happiness studies* 3.1: pp. 71-92, 2002
- [20]. K. Kulikowski. "Do we all agree on how to measure work engagement? Factorial validity of Utrecht Work Engagement Scale as a standard measurement tool—a literature review." *Int. J. Occup. Med. Environ. Health* 30: pp. 161-175, 2017
- [21]. Z. S. Byrne et al. "The struggle with employee engagement: Measures and construct clarification using five samples." *Journal of Applied Psychology* 101.9: 1201, 2016
- [22]. A. Viljevac et al. "An investigation into the validity of two measures of work engagement." *The International Journal of Human Resource Management* 23.17, pp. 3692-3709, 2012
- [23]. R. Chumachenko. "Investigation of factors of increasing personnel involvement". *Kant* (23), 2017
- [24]. Andrew, Anthony. "Employees' commitment and its impact on organizational performance." *Asian Journal of Economics, Business and Accounting*, pp. 1-13, 2017
- [25]. F. F. Reichheld. "The one number you need to grow." *Harvard business review* 81.12: pp. 46-55, 2003
- [26]. M. Yaneva. "Employee Satisfaction vs. Employee Engagement vs. Employee NPS." *European Journal of Economics and Business Studies* 4.1: pp. 221-227, 2018
- [27]. E. Volini et al. "Deloitte Global Human Capital Trends". Deloitte report, Internet: https://www2.deloitte.com/content/dam/insights/us/articles/5136_HC-Trends-2019/DI_HC-Trends-2019.pdf, 2019 [Apr. 12, 2020]
- [28]. D. Robinson et al. "The drivers of employee engagement." Report-Institute for Employment Studies, 2004
- [29]. J. Sweller. "Cognitive load during problem solving: Effects on learning." *Cognitive science* 12: pp. 257-285, 1988.
- [30]. P. C. Price et al. "Research methods in psychology." BCCampus, 2015.
- [31]. N.J. Salkind and M. Cattaneo. "Matching." *Encyclopedia of Research Design*, Sage Publications, Inc., Thousand Oaks, Calif: pp. 759-762, 2010
- [32]. A. Apostolopoulos. "The 2019 Gamification at Work Survey." Internet: <https://www.talentlms.com/blog/gamification-survey-results/>, 2019.
- [33]. S. Hussain et al. "Employees management: evidence from gamification techniques." *Montenegrin Journal of Economics* 14.4: pp. 97-107, 2018
- [34]. L. Moccozet et al. "Gamification-based assessment of group work." *International Conference on Interactive Collaborative Learning (ICL)*, 2013