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ECOPSY

Artificial Intelligence in HR

Contents

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I ♥ AI

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There are three common myths about artificial intelligence (AI).

The first myth: **artificial intelligence** primarily replaces simple routine operations. No, that's not true. Routine operations are replaced by automation, and **artificial intelligence** takes away complex expert activities from people.

The second myth: **artificial intelligence** works worse than a human expert. This is also not true. Even today, **artificial intelligence** is better at making diagnoses based on x-rays than a specialized doctor. It is possible that there are doctors who can analyze x-rays very accurately, but there are also those who are prone to certain perceptual errors. Collectively, a group of doctors turns out to be a worse diagnostician than **artificial intelligence**.

The third myth: **artificial intelligence** is more expensive than work of a specialist. This is also not true. A successful project in the field of **artificial intelligence** allows you to develop a technology that significantly reduces the cost of the service compared to an expensive expert.

Conclusion: **artificial intelligence** replaces the expert and provides a better result for less money.

In recent years, we, ECOPSY, have invested in creating **AI** tools in the field of HR. In the magazine you will find a description of the main technologies that we have managed to develop. I will limit myself to two examples.

The Echo — automated assessment of leadership potential based on video interviews. The machine analyzes the spoken text, its content and emotions. **AI** has not yet been able to "beat" the assessment center in terms of validity and reliability, but it has already shown better predictivity than any tests. Keeping in mind, a three-minute fragment is sufficient for analysis. You can imagine: people spend 3 minutes, not an hour, and the machine makes an accurate forecast of their leadership behavior. And this is not a miracle — it is **artificial intelligence**.

The second example is — the **DEEP** — method for identifying the real values of corporate culture. You can conduct dozens of interviews and focus groups, you can give employees a complex questionnaire — in all cases, social desirability will work, and we will not see the true picture. DEEP is a kind of "x-ray" for corporate culture, highlighting what is hidden under the "edges" of social desirability.

ECOPSY has a team of enthusiasts who are in love with **AI** technology. In recent years, it has, in my somewhat biased view, made a breakthrough in the HR field. At the same time, when investing in the development of new technologies, we did not think about one more feature of **AI**: it can be applied remotely. And that's why today our **AI** enthusiasts are reaping the demand has "soared at times for products that the market used to treat with caution.

Artificial Intelligence. Can Zion Sleep Peacefully?

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Artificial Intelligence (AI) is one of the trends in the modern digital world. Increasingly, there are reports of the replacement of lawyers and accountants with artificial intelligence, the development of unmanned vehicles, the use of neural networks in medical diagnostics. Gradually, artificial intelligence penetrated HR.

Artificial intelligence in its current state is not humanoid robots that can take the place of recruiters or business trainers, but sets of algorithms that automate the performance of typical HR tasks. Such algorithms work faster than the human brain and take into account huge amounts of information when making decisions.

The concept of artificial intelligence

Artificial intelligence is an extremely broad concept, which leads to a lot of speculation. This allows companies engaged in automation to associate their solutions with AI and thus separate themselves from "aging" colleagues in the workshop. It turns out to be an ironic situation: now every company that claims to possess it has artificial intelligence. But does everyone talk about the same concept?

Distinguishing features of artificial intelligence can be marked:

1. **This is a set of algorithms.** Concerning HR, almost all of these algorithms relate to machine learning (Machine Learning, ML), which allows you not to program any rules directly, but to set the scope for learning. The machine processes the data set and thus learns and finds implicit patterns.
2. Artificial intelligence **uses data to analyze and build relationships**. Just as a person relies on his previous experience to do the job, artificial intelligence must analyze a large array of data to find patterns. The result of the training is a model that shows how the data is related to each other.
3. Artificial intelligence **imitates the human mind in solving specific problems** while ensuring a high level of automation of processes. Such tasks can be recognition of speech and emotions of the interviewee, forecasting its effectiveness, and assessing the likelihood of dismissal, analyzing correspondence of employees.

In most cases, AI is mixed with or replaced by the concepts of automation and HR analytics.

Automation is a digitized HR process. For example, a recruiter can enter resumes of applicants on an online platform, choose the best ones for invitations to face-to-face interviews, and then build a dashboard[1] — from which source he receives the most qualified candidates. This level of automation does not require the use of algorithms that learn from data and does not replace human work. But in its most advanced forms, automation involves the use of AI. A recruiter, for example, can get an assessment of applicants entered into a system based on their resume or automated video interview.

Artificial intelligence is a set of algorithms that is trained on data and further imitates the human mind in solving specific problems.

HR analytics are methods of analyzing personnel data to obtain conclusions that are valuable for making management decisions. At the simplest level — descriptive: dashboards and benchmarks — HR analytics does not imply the use of AI. But at higher levels, HR analytics and AI are almost the same. The main tools of predictive analytics, which allow you to predict future events, are based on AI. For example, using predictive analytics, a company can build a model of effective employees and then select them based on the results of the assessment.

Thus, artificial intelligence performs two tasks:

- Automate simple operations or decision making. Here, AI is an automation tool.
- Search for implicit patterns in data. Here, AI is identical to developed forms of HR analytics.

1 Dashboard is a visual representation of data grouped by meaning on one screen for easier visual perception of information.

The main advantage of artificial intelligence is reduction of time and costs due to accurate imitation of human work. For example, AI can:

- automatically search for candidates on work sites or on social networks;
- evaluate them in a telephone conversation or chat;
- evaluate in video interviews or evaluation games;
- identify employees who may leave the company in the coming year;
- formulate individual development programs depending on their 360-degree assessments and test results.

In these processes AI, if it does not make independent decisions, then offers them, removing the need for routine operations from a person.

It is worth recognizing that the scope of AI in HR is still very limited. AI is much more often discussed or mixed with automation in general than applied. So, according to a study by Oracle and Sierra-Cedar, only 7–8% of North American companies implement AI in HR. Of the top 30 Russian companies, we only know four that use AI. There are reasons for this:

1. **The implementation of AI requires companies to have a high level of automation of HR processes.** For matching candidates an ATS platform[2] is required where there is information about these candidates; Predictive models require an end-to-end HCM system[3] storing all the necessary data. Currently, few Russian companies have fully automated their HR processes.

2. Russian AI developers cannot offer anything HR, because they **don't get enough quality data to create technology**. This is largely a consequence of low automation level. Either there is no data (there is no system to store it), or this data is of poor quality. For example, only a small number of Russian companies can be confident in their data on the performance of employees or the number of violations of the rules at work. And here the "garbage in — garbage out" rule applies. It is impossible to build a qualitative model based on distorted data that will form the basis of AI.

3. **In personnel management, transparency of processes is required.** Candidates and employees should understand by what criteria they were selected, why they are offered specific training programs, how their teams were formed. While the highest accuracy, artificial intelligence reaches in the black box[4] models that are so complex and include so many factors that it is almost impossible to interpret and explain. This causes staff resistance. Therefore, if companies use AI, then simpler and less accurate models that are more interpretable.

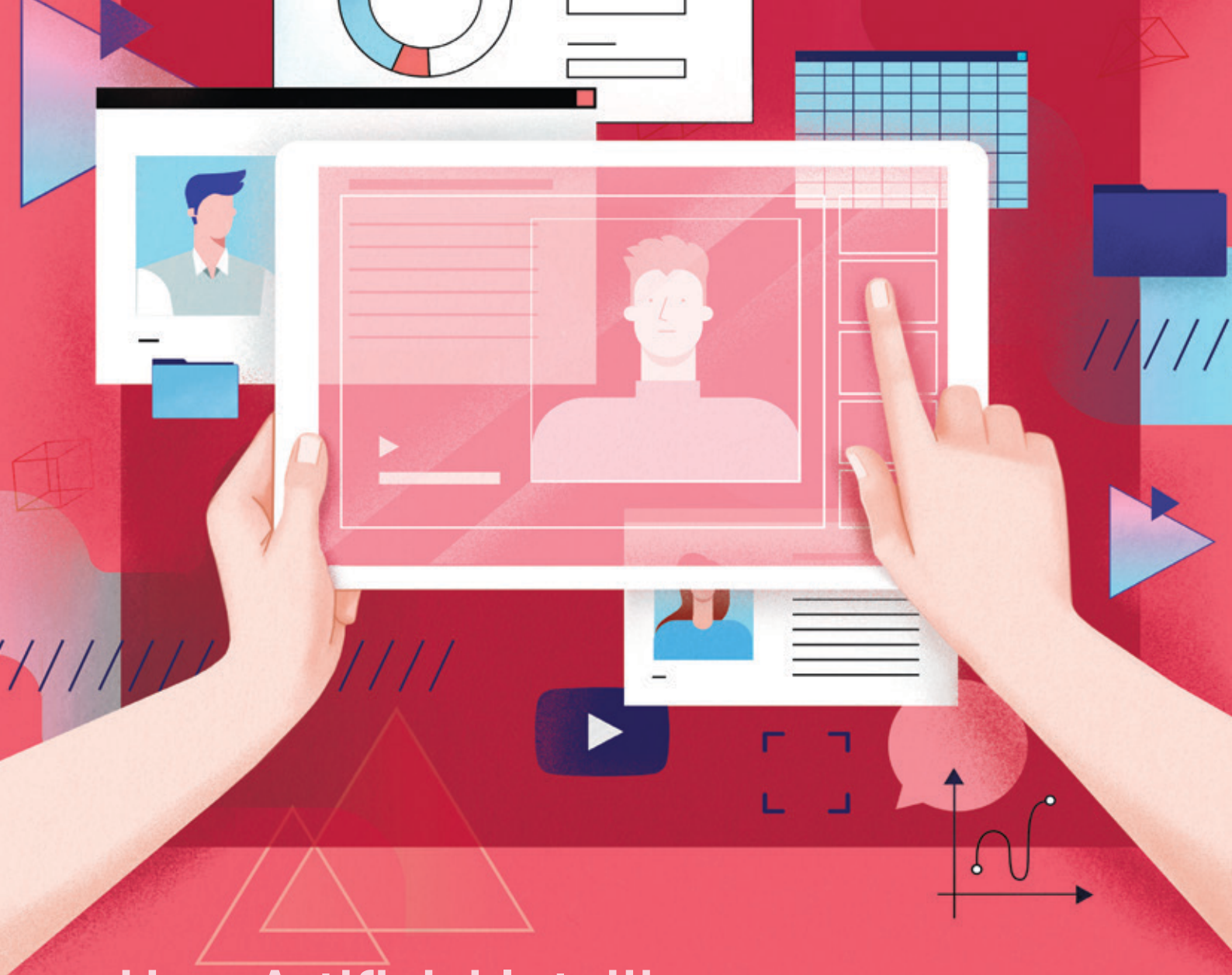
4. **Legal and ethical restrictions** on the use of data and the associated resistance from HR. For example, a machine-learning model may show that people of a certain gender or age are more effective in a company. But the use of these criteria is at variance with the norms of labor law and ethics in general. In other words, even a finely tuned AI can discriminate against certain groups of people simply because it matches the data.

These inevitable limitations will always accompany AI technology. But we believe that even despite them, artificial intelligence will develop in HR. We see the active growth of these technologies and the emergence of interest in them from Russian companies. And the future is clearly about these technologies.

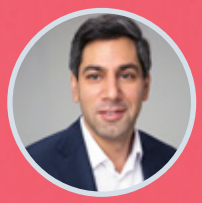
2 Applicant Tracking System (ATS) – software that allows you to perform recruiting tasks.

3 Human Capital Management System (HCMS).

4 From English *"black box"*.



How Artificial Intelligence Changes HR



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We offer you a general look at the possibilities of using artificial intelligence in the HR environment. Details about specific products and solutions are described in separate articles, here we will first of all outline how artificial intelligence has changed the approach to a particular HR process.

How it works now

Let's see how different HR processes looked and sometimes look now without the integration of artificial intelligence. To make this story more structured, we take as a basis a diagram of the life cycle of an employee in a company. The approaches to the description of this cycle may differ, so we'll state the scheme we use (see Figure 1).

The company has only seven basic elements of the employee's life cycle (plus one additional):

- selection,
- compensation,
- goal setting and performance evaluation,
- assessment,
- training and development,
- career or Talent Management,
- dismissal.

Corporate culture and involvement are a separate element since this is not a process, but a background on which all processes exist.

Figure 1. Basic elements of the employee's life cycle.

Imagine the life of an employee in a company where artificial intelligence is not involved in HR processes. At each stage of work, a person is faced with a large number of subjective or not very reasonable decisions.

Selection. The main evaluation tool for hiring is an unstructured interview conducted by an HR specialist or potential manager. It is impossible to say with certainty how the interviewer makes decisions, but they suffer from subjectivity. For example, men give higher ratings to other men (Koch, D'Mello, & Sackett, 2015). And candidates with attractive looks have a double chance of getting a job (Hirevue, 2018). We are all people with our judgments and stereotypes.

Compensation. The size of the salary is formed based on general ideas and ideas about justice, the phrase "in the market" is very popular. What kind of market is this? Does it relate to job rating scales in a given company or not? Even if a standardized approach is used, there are many loopholes: when you use general scales and market ratings, there is a lot of freedom, and individual leaders devise ways to use this to their advantage. Besides, prejudice also affects compensation. For example, women earn 20% less than men in similar positions (Hegewisch & Liepmann, 2010). Even in such an important area as grades and salaries, an employee is faced with subjective and imperfect data and decisions.

Setting goals and assessing their achievement. Leaders determine the goals of the new year depending on the past. There is rarely any systematic nature. If last year the employee worked well, fulfilled the plan — next year the goals will be raised. Not everyone will likely be able to achieve the targets again, therefore, in the third year, the goals will again be lowered. In this way, the "swing of planning" is launched, ranging from over fulfillment to unfulfillment. The result is a crisis in performance management systems: units that have a higher percentage of goal achievement do not make a big profit (CEB, 2012).

Rating. An employee is evaluated by a manager, and he never really explains his assessment. For example, an assessment of values occurs only based on the observations of the leader, and this is complete subjectivity. At the same time, studies show that managers evaluate well what subordinates have achieved and poorly assess how.

Training. The training system has been around for many years. But so far, the main tool for measuring the effectiveness of training is feedback questionnaires, they are used by 91% of companies (Surgue & Rivera, 2005). If the coach was cheerful and not tormented, the employees give high grades. He was tedious and "loaded" — they will put low grades. Companies invest a lot of money in training, and in the end, they get only an assessment of whether employees are satisfied or not (the same study showed that only 8% of companies consider the impact on business results). One IT company conducted training, and then evaluated the effectiveness of employees. It turned out that most of the training programs are ineffective, one particularly popular training negatively impacted the performance: those who took it worsened their performance in the next quarter.

People's Career — Talent Management. Until now, most companies select people for promotion from those proposed by managers. The tools used for evaluation distinguish completely worthless people from those who could be hired as a whole, and cannot reliably show the effectiveness of an employee in a new position (the exception is, perhaps, only the PiF — Potential in Focus — potential assessment test).

Dismissal. The least regulated process in all companies is least affected by subjective decisions. More often than not, an employee either resigns or is fired when he has committed a very gross violation.

In the management of culture and engagement, the bulk of the companies have so far focused on tools that have been used many years ago — surveys in which employees answer in the "like/dislike", "ready/not ready" forms. Survey participants are not interested in some of the questions, which is why the quality of their answers decreases.

As you can see, the entire cycle of work with an employee is extremely subjective. Systems based on artificial intelligence can significantly increase the efficiency of each process.

Artificial intelligence is a system that is taught to make some decisions without human involvement. From the subjectivity of one, two, or three people, we move on to more objective decision-making. When we teach the system, we also pass on part of our prejudices to it, but since the system learns from the prejudices of many people, the probability of actual subjectivity is negligible. For example, if Masha likes blondes and appreciates them highly, Katya likes brunettes and appreciates them highly, and Olya likes and appreciates redheads, then when we integrate many people's assessments into the artificial intelligence system, hair color will cease to play a role. This is precisely the main advantage of artificial intelligence systems: less subjectivity of a specific event, action, decision. Another important feature of artificial intelligence is the high speed of processing a huge amount of information, the ability to quickly compare facts and identify relationships. This can be compared to assembling a complex puzzle. It takes more than one day for a person to assemble a complex picture, while a machine does it in seconds.

If you add artificial intelligence

Let's now see how HR processes will change if we add elements of artificial intelligence to them. The trick is that you don't need to implement something complicated, bulky, and expensive. Sometimes very simple solutions become revolutionary. In some processes, we will also talk about tools that are abroad.

Artificial Intelligence Recruitment

Selection is one of the most labor-intensive processes in the entire cycle of working with an employee: we need to consider a dozen people for one vacancy, choose two or three, conduct an interview with everyone, and give a feedback. And all this multiplied by the subjectivity of the recruiter. Moreover, in recruitment there is the largest number of routine tasks that can be automated with an artificial intelligence. This is especially true for the mass selection.

What is in the world. Staff recruitment using AI.

Textio-type startups evaluate job descriptions according to several criteria: attractiveness for candidates, non-discrimination by gender or race, level of complexity, and text length. Based on the assessment, recommendations are made to improve the vacancy.

A separate large layer of technologies is dedicated to the search for candidates and the assessment of their level of compliance with qualification requirements. Many startups are looking at social networks and professional communities for "passive" candidates who can be effective in certain positions. The most famous startups: Blendoor, Ideal, Harver, HiringSolved, Headstart.

Artificial intelligence-based chatbots can engage in dialogue with the candidate and further evaluate their potential effectiveness. It is important that chatbots with artificial intelligence, unlike ordinary ones, do not require direct programming of rules: how to answer human questions. On the contrary, artificial intelligence can interpret even the indirect response of the applicant. Abroad, chatbots are developed by Mya Systems, Paradox, Text Recruit. In Russia — Vera the Robot and Yandex.Talents.

Close to the topic of recruitment, we can single out work in the field of adaptation of new employees. Chatbots in this area serves as a more "humane" knowledge base. A newly arrived employee can ask the bot about the schedule, company structure, benefits, and other issues that are important in the first months of work. Examples of startups: Leena.ai and Talla.ai.

ECOPSY has two tools in its arsenal that can significantly speed up the process and reduce the subjectivity of the recruiter.

The Echo

Already, instead of a face-to-face interview, a video interview is actively used (a variation is recording the answer to a certain question on a video), but the same subjective recruiter looks at it and makes its judgment about the candidate. As a result, the disadvantages of the process are the same as in an in-person meeting, of the advantages — only saving resources on logistics. At the same time, another subjective judgment of the recruiter is added on what exactly and how the candidate should speak.

What have we done? We took more than 180,000 video interviews, performed speech recognition, voice, text complexity, facial expressions, and then compared with each person's data on how successfully he passed the intellectual tests, the potential assessment test, a complex assessment procedure (advanced assessment center). After that, those patterns that correspond to successful or unsuccessful candidates were identified in the initial video and made up a complex model that showed how capable a person is of going through complex assessment tools. All this was revealed by a three-minute video. **Now we can conduct hundreds of thousands of video interviews, analyzing them using artificial intelligence, and predict the effectiveness of people with incredible accuracy.**

Now we can conduct hundreds of thousands of video interviews, analyzing them using artificial intelligence, and predict the effectiveness of people with incredible accuracy.

You will read more about this tool in a separate article "Case: The Echo Automated Video Interview — Evaluation of a Candidate in 3 Minutes".

delta.ai

This tool looks more traditional. For a while many companies have used personal questionnaires and psychological tests for initial evaluation. Their weakest point is socially desirable responses. Any rational person knows: if they ask him if he has high goals, he must answer "yes," and take a responsible approach to work — all the more, you need to agree. After all, these are the answers the company expects from the candidate. But people can not only lie but also be mistaken about themselves. All questionnaires are a way to understand whether a person's self-image is related to a company's idea of who they need in a given position.

Not only employees lie: companies and consultants are also cunning, trying to interpret the answers. For example, if analytical abilities were revealed — they think that the candidate is smart, if they reveal an extrovert — they assume that such an employee will be fine with communication. These are also subjective opinions and conjectures.

This process will be transformed if you connect systems based on artificial intelligence. To begin with, we will ask colleagues and the leader how this or that person behaves, which is his strengths and weaknesses. Such cross-sectional surveys are conducted for many employees. Then, the assessed passes a specially designed questionnaire. As a result, the machine analyzes the intersection of responses and actual behavior, revealing patterns. It turned out that the patterns are completely unobvious, which means that it is almost impossible to guess them. For example, responsibility is revealed not at all by those questions that one might think about. This means that it will be difficult to fine-tune your answers, and social desirability will be eliminated. Thus, based on artificial intelligence, an algorithm was created, which made it possible to make a working tool out of a traditional survey. **As a result, the reliability of the assessment has more than doubled.**

We also devoted a separate article "Delta.ai. Predicting Employee Behavior with Artificial Intelligence" in this issue of the journal.

Artificial Intelligence Salary Formation

The C&B industry is experiencing the biggest technological breakthroughs. Companies have always tried to deal with this HR process. There was always a market, certain positions, responsibilities, but everyone understood that there were a lot of parameters, they could not keep track of everything, so they began to introduce simplifications, for example, a grading system. Then the grades system was compared with the market, at the same time understanding that differences in salaries for the same position could be 30–40% up and down. But everyone put up with it, compromised. With the use of artificial intelligence, everything changes.

Artificial intelligence systems can understand what pattern exists in the organization of the salary system and formalize it. It happens like this. A huge amount of information is collected from various sources (manager's assessments; mutual evaluations by employees of the posts on the importance, complexity, price of mistakes; data on education, professional certification, retraining, completed courses of training; information on employee performance and much more), which is processed by artificial intelligence and transformed in a sufficiently clear and understandable system of remuneration.

We have already implemented such a project, where we presented to top management a diagram showing which employees in the organization are significantly overpaid (they can reduce salaries) and which are significantly underpaid (there is a high risk of them leaving). As a result, with virtually no loss for those people who were important to keep, a system was built that ensured, on the one hand, an increase in employee involvement, and on the other, a 10% reduction in payroll.

It is important to note that the system also takes into account the unit where the employee works, and therefore the "complexity" of the labor market for him, the region of work of employees, again because of the nuances of the personnel situation. It's even hard to imagine how long it would take people to analyze such data. Most likely, it would become obsolete in the middle of the project. This is a small step for artificial intelligence, but a huge step for the entire HR community. **Instead of the old clumsy wage system, we got an accurate and efficient tool.**

You can read more about it in a separate article "How to Deal with Payroll System Easily" in this issue of the magazine HRTimes.

Setting goals and performance evaluation based on artificial intelligence

Shaping Plans — Objective[2]

This tool is used in the West, but it is not widespread in our country. For an employee to work effectively with his plans, he must understand why and how they are formed, what factors can affect implementation. Now, in most cases, setting goals and creating plans occurs on a hunch. Moreover, it is almost always possible to collect data for several years, analyze it, and find parameters that affect the volume and quality of work. Based on them, it is possible to build a model and make transparent, understandable to employees plans for the next year. In our practice, there are stories when the organization posted a planning tool on the internal portal, with the help of which each employee could understand how his plan depends on certain parameters. Absolute transparency, and, as a result, efficiency and involvement.

DEEP

One of the main problems of competency assessment is that managers evaluate god knows what god knows how. 70% of managers do not believe in the connection of competencies with real efficiency, and they are right: ⅔ of competencies do not correlate with efficiency. This leads to the fact that such an important decision as the assessment of employees by competencies is carried out without necessary attention or even sabotaged.

By analyzing data using artificial intelligence, you can find the behavior that is associated with the effectiveness of a particular company and create a truly working model of competencies.

By analyzing data **using artificial intelligence, you can find the behavior that is associated with the effectiveness of a particular company and create a truly working model of competencies.** We call this product DEEP, and it allows you to create a competency model that is not on the sand but on a solid foundation from the data. With the help of DEEP, we were able to create a universal competency model for Russian companies. We have prepared an infographic about what competencies an ordinary employee and the head of a Russian company should have to be effective.

Artificial Intelligence Based Employee Assessment

What is in the world. Assessment using AI.

Almost the entire gamified assessment is now implemented based on artificial intelligence. The participant performs in a single game session in puzzles, arcades, strategies many actions that can be used to predict its effectiveness in the work. The analysis of such unstructured information occurs with machine learning technologies. In 2012–2015, startups in the field of gamified assessments boomed in the United States, but the wave of gamification has not yet reached Russia. The most striking foreign startups in this area are Pymetrics, Arctic Shores, Scoutable, Knack.

At the moment, in the field of assessment, we propose using the three tools that have already been written about above.

Automated assessment of video interviews using **the Echo** platform — the machine “watches” the video message of the candidate (external or internal), then puts an assessment of competencies and predicts its effectiveness. There are similar technologies dedicated to the analysis of voice, text, social networks.

The second is the delta.ai tool which is specially formed questionnaires. The assessment of employees is carried out for internal selection, therefore this tool ideally fits into the assessment processes.

And the third tool, which also significantly affects the quality and effectiveness of assessment procedures, is DEEP, a competency model created based on HR analytics. The result and usefulness largely depend on the quality of what underlies the assessment. If the foundation is based on the "wrecked" model of competencies, then the results will be of little use. But as soon as a reliable base is formed, the rest of the design will become a more stable and useful for a company.

Assessing the effectiveness of training based on artificial intelligence

At the moment, artificial intelligence systems are used primarily to assess the effectiveness of training. Traditionally, the model of D. Kirkpatrick is used to assess the effectiveness of training[1] and it is believed that at each subsequent level it is more difficult to evaluate the effectiveness of training. But the interesting point is that with the advent of artificial intelligence, evaluating the last level became significantly easier than any other. There is only one condition: you need a sufficient number of people — dozens, and preferably hundreds and thousands, so that patterns are more easily identified and so that they are more accurate.

What can affect employee performance? Work experience, age, gender, competency assessment, including learning ability. Training is just one of the factors. To enter all the data into the model and compare the effectiveness of people who have passed and have not passed training is quite simple. Artificial intelligence can isolate the impact of learning (or even a single module, which is especially true in the current trend towards micro-learning) on efficiency. If the connection between learning and effectiveness is positive, then all is well. If the system says that we isolated the influence factor of learning, but did not find anything, most likely this influence is not there. And it also happens that there is training that adversely affects efficiency — this must be removed.

We have a client who reduced the number of points in the sales standard from 8 to 2. The number of training was reduced by 3 times, and nothing negative happened, the efficiency of employees did not decrease. But the moneywise, savings were significant.

What is in the world. AI training.

In development and training, two classes of artificial intelligence technologies can be distinguished. The first ones analyze the employee's performance, colleagues' reviews about him, test results, and build individual development programs. After a while, the performance measurement and a survey of colleagues are repeated, and the development program is being adjusted.

The second class of technology contributes to the formation of skills among employees that will increase its effectiveness. Typically, a list of skills is taken from a development program. Every day a notification comes to the employee's phone with a list of actions that he must perform today. At the end of the day, the employee confirms what actions he performed, and the next day he receives a new list.

Career (Talent Management) based on Artificial Intelligence

Here the situation is similar to training. We can also isolate different factors and understand which factor leads to success and career advancement in a company.

There are completely unexpected discoveries. During the project, one of our clients found out that men were three times more likely to get career advancement than women. This is already happening at the level of line managers. The organization has 80% of women, and among top management — 80% of men. A specific dropout system in the middle leads to this picture.

Also, during the analysis, we can understand which assessment tools work best for promotion in a particular organization and honestly continue to say that we will use them. An approach is becoming a thing of the past: to copy the behavior of sample employees according to some criteria and look for the same ones for promotion.

1 D. Kirkpatrick's model suggests evaluating learning at 4 levels:
1) reaction – what is the student's reaction to learning (liked / disliked);
2) learning – what the learner has learned (material, level of knowledge, measured by tests);
3) behavior – how the behavior of participants changed in the workplace;
4) results – how much efficiency has increased.

Now we say differently: in the company, some people have made a career and some, who have not done it yet. Let's compare them and find out how they differ.

For example, we have a social intelligence test that uses case studies with answer options. We know how top managers respond to it and how line managers respond. Further, the responses of the new survey participants are compared by the artificial intelligence system with the constructed model and those who responded as a top manager are identified. Most of the answers by themselves do not mean anything, without context they do not work and begin to mean only when a person in some specific way answered other questions, because the relationships are important. It is an artificial intelligence that can quickly build these complex chains.

The further you go, the more this trend will be noticeable in all areas. We will rely less and less on the opinions of experts, even very good ones, and we will look at the data. Ideally, this should help promote truly worthy candidates.

We will rely less and less on the opinions of experts and we will look at the data in all HR areas.

Dismissal

This is so far the only point where ECOPSY has no products, and there are several reasons for this. There are many offers in this area on the market, all of them are trying, one way or another, to predict the likelihood of an employee being fired. Unfortunately, these products are attractive, but it is not clear what to do with the data obtained during their use. For example, we tracked that according to some parameters, the employee will quit soon. What shall we do with this? We will come to him and say: "The machine told us that you will quit soon." What might be followed by something like this: "Hmm, maybe the machine is right, and I should change the company?"

The stumbling block is that we can identify people at risk, but we cannot understand why they can quit. One of our clients set up such a system, got the result, and then began to figure out what was the matter. It turned out that the leaders stopped sending to training those whose work they do not like. The system identified this factor. And what would you do next? Come to the leaders and tell them about the "discovery"? But they already know that they want to fire these people.

It's more useful to set up systems that will help you take into account the likelihood of being fired in asking certain questions to an employee. For example, we know that engagement surveys are more often answered by loyal employees than non-loyal ones. Accordingly, if we want to receive truthful answers, we should ask much more potentially disloyal than loyal ones. If this succeeds, then such answers can be included in the model and then the correlations of dismissal and answers to questions can be tracked, which will provide rich ground for analysis and subsequent actions.

Artificial Intelligence-Based Culture and Engagement Management

The future is richer in data. And it's easy to get it, you just need to ask more open questions by changing your usual engagement survey. Instead: "Did the leader talk to you about your progress in your work?" — ask: "What and when did you speak with the leader?" After that, modern artificial intelligence systems can carry out an analysis with high quality and interpret the answers to each of these questions. Text analysis based on mathematical modeling is a technology we have mastered. How to conduct such a survey in a modern and technological way, there are a lot of options: chatbot, voice interview system, and so on. All of them simplify the process for the employee: there is no need to spend a lot of time on the survey, which increases the involvement and quality of filling.

A variation of this technology — artificial intelligence can analyze correspondence in the mail and corporate messengers and highlight the least involved and satisfied employees.

The second point that we can study with the help of artificial intelligence from the company's culture is the formation of teams and the study of how close the unit is: what roles do people perform with each other, what roles do they want to fulfill, and which are not, what kind of relationships exist between employees.

Conducting a BOND study, which is based on the ONA system (Organizational Network Analysis — Organizational Network Analysis), we ask each employee with whom he most often communicates, in what role, whether they need to communicate more or less with these people for work. This is a very quick survey, which allows you to understand which units are closed and which work outside. Which units do you want to communicate with, and which do not. In an organization of ten thousand people, one such study provides hundreds of thousands of data points. Clearly that for the interpretation of this volume, artificial intelligence is indispensable. But in the end, we get more complete information from the data that previously remained in the shadows. The results of such a survey can be used primarily to manage the culture and involvement of employees, as well as to identify potential informal leaders who can be promoted in the organization (this applies more to the Talent Management block).

What is the most important thing you want to convey in this review? Firstly, **do not be afraid of the phrase "artificial intelligence"** — this is not at all scary. It will not enslave us: we are talking about substantial assistance to the human brain. Secondly, already now **there are a lot of tools that can simplify the lives of companies, provide a rich ground for reflection, and reveal what was previously hidden.** Thirdly, most tools **are easy to implement, take little time, and investment in them pays off very quickly**. You just have to dare.

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Case: The Echo Automated Video Interview — Evaluation of a Candidate in 3 Minutes

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Artificial intelligence provides many opportunities for automating routine operations in evaluating candidates. One such technology is artificial intelligence in video interviews. Abroad, this technology is provided by many companies[1]; over the past 5 years, among scientific literature, several publications have been published on this topic[2].

1 Hirevue, Knockri, Aspiring Minds.

2 Nguyen, & Gatica-Perez, 2016; Rupasinghe, Gunawardena, Shujan, Atukorale, 2016.

We are proud that in Russia an automated video interview system was developed by us — ECOPSY company. We called it Echo. In this article, we describe the work of Echo on the example of the competition "Leaders of Russia" and also describe how it can be used in other companies.

"Leaders of Russia" is an all-Russian open competition for leaders of a new generation. The main task is to find the most promising and talented managers from all over the country. Finalists win an educational grant and the opportunity to get advice from top managers of large companies and prominent statesmen. The competition is being implemented by ANO "Russia — the Land of Opportunities" with the support of leading valuation providers. It was first held in 2018, for three seasons about 600,000 people took part in the "Leaders of Russia". You can read more about the first two seasons in the HRTimes magazine (No. 34 2019).

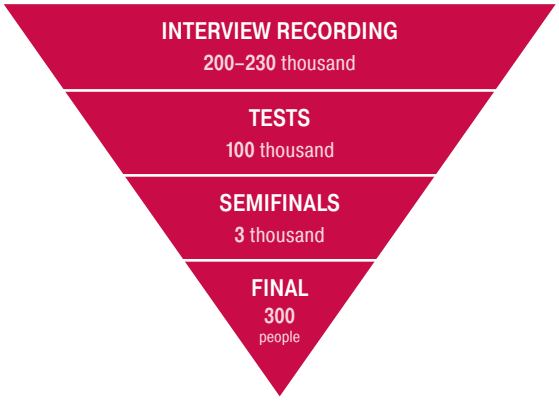
What is a video interview?

A video interview is a video recording of a candidate's answers to questions that are important for a company to hire for a particular position. Questions are devoted to the past achievements of the candidate, his experience, and his expectations. The recruiter views the video and assesses the extent to which the candidate is in line with the company's culture and the most basic job requirements. A video interview also checks the candidate's motivation: if he answered the questions, then he has already shown minimal efforts to get a job. After successfully completing the video interview, the candidate proceeds to other assessment tests — tests, face-to-face interviews, modelling exercises.

Given that at the beginning of each competition season, about 200,000 applications are submitted, and 300 people reach the final, we get a very sharp selection funnel with a very strong desire of participants to win (see Figure 1).

Figure 1. Selection funnel of the competition "Leaders of Russia".

In the competition "Leaders of Russia", a funnel model is used: participants first pass remote assessment tests. They record a video interview and pass a series of tests, then they participate in two stages of face-to-face assessments: in the semi-final within the federal district and in the all-Russian final.



The experience of the first two seasons has shown that in the framework of the remote stage it is necessary to solve two problems:

1. **Minimize the ability of participants to get high results by learning to answer similar tests or using other methods of cheating.** Competition is an evaluation procedure with high stakes, therefore, participants try by any means to get high results. On the remote side, when participants are not controlled, the risk of fraud and social desirability is especially great.
2. **Reduce the "sharpness" of the selection funnel.** At the remote stage, a rather sharp narrowing of the funnel takes place: 50–70% of participants are eliminated on each test. Moreover, the tests are most effective when dropping out 20–30% of participants (in the "barrierometry" task).

At the moment, the video interview within the framework of the competition is a motivational test, screening by its results is not carried out: if the participants wrote down the answers to the questions, took time, thought out the text, then they are motivated enough to participate in the competition and are allowed to the next stage — testing. But if you fully automate this tool and apply artificial intelligence technologies, a video interview will become a full-fledged assessment tool with the ability to filter out up to 30% of participants at the first stage. In this case, fewer participants will go to the next stages, the funnel will become smoother, smoother, and the use of machine learning algorithms will protect the score from fraud.

Model development

To develop the Echo technology algorithms, ECOPSY consultants analyzed a huge amount of information: 180,000 three-minute videos that were recorded by the participants of the first and second season of the competition. Video files did not contain the names and surnames of the participants, only their identification numbers. Each participant in these videos answered two questions:

- What is the purpose of your participation in the competition?
- What is your main professional achievement?

The participant could record a video in his account on the contest website or download a previously recorded video from his device.

In each record, we recognized five groups of signs using special services:

- **speech —** words, which were spoken by the participant;
- **prosodic variables —** the level of an intonationaly-expressive variety of speech and its speed;
- **topics —** sets of words that are most often found together;
- **tonality —** the emotional coloring of speech;
- **facial expressions —** for example, blinking, smiling, raising eyebrows, which were further combined into emotions.

After that, we compared the data obtained with how successfully each participant went through all the subsequent stages of selection — various tests and in-person evaluation procedures. This allowed us to identify those features of speech, voice, and emotions that distinguish successful participants from unsuccessful.

The final model included 6,200 features that are in a complex non-linear relationship with each other. The main share of the signs is in the participants' speech and related parameters, emotions have less weight. This is because the quality of audio recording on modern devices is higher than the quality of video recording. Therefore, on the part of the videos on which the model was trained, it was not possible to fully recognize the emotions.

The accuracy of the Echo model allows you to filter out up to 30% of participants with the lowest video interview scores. With this screening, the percentage of error (the participant was screened out, although he would have received high marks in the competition) is close to zero.

Black Box Disclosure

The main problem of AI is the opacity of the assessment (which is why AI is often called the black box). Machine learning algorithms work extremely difficult, because of which it is almost impossible to interpret and explain to people why the machine offers this or that solution. In HR, this problem is especially vivid, since technologies are directly related to people, affect people, and take their opinion into account in the process. The original Echo model, developed as part of the analysis of the video from Russian Leaders, was also a black box. According to its results, one final point was issued, reflecting the forecast of the participant's success in the competition. To make the results understandable to participants, we decided to try to analyze and interpret them. ECOPSY analysts took all 6,200 attributes that went into the model and processed them using special algorithms. As a result, the final score was divided into three components:

- **Confidence in the presentation** — how confidently the participant will present his point of view;
- **Logical presentation** — to what extent the participant's story is consistent and logical;
- **Motivation and involvement** — how much the participant is interested in participating in the competition.

Each participant of the "Leaders of Russia 2020" received a report in which there was not only a final score, as in the report of the participants of the second season but also points on the three components.

The Echo technology was developed based on videos that were filmed as part of the first two seasons of Russia's Leaders. In the third season of the contest, Echo was tested "in combat": the participants were introduced to the new technology. But decisions affecting further participation in the competition based on the results of the Echo assessment were not made. Currently, the issue of the format for using Echo in the next seasons of the "Leaders of Russia" is being considered.

How the Echo can be used in business

We described an example of using the Echo as part of the Russian Leaders contest, but how can companies use this technology? The Echo may be of interest to those organizations in which mass selection is carried out — banks, retail chains, manufacturing companies. The introduction of Echo technology to evaluate candidates for a three-minute video interview will significantly reduce the selection time, save money, and maintain quality while reducing the subjectivity of the recruiter. As a result, the company will receive technology that can automatically filter out up to 30% of candidates.

To implement an automated video interview in a company, two conditions must be met:

- video interviews of **700 or more candidates**,
- **the decision of the recruiter on them** (to advance to the next stage of the funnel or not).

Prospects for Echo Technology

The Echo is a promising technology based on the capabilities of artificial intelligence. Its most obvious benefits include:

1. **High precision.** Using the Echo, you can filter out up to 30% of candidates, while the error will be close to zero. This is more than all the test methods.
2. **Reducing the risks of fraud.** The relationship between the answers to the video interview and the final assessment of the candidate when using AI is so non-linear that a person is not able to predict and adapt to them, “fabricate” their behavior on video, or rebuild speech.
3. **The speed.** The candidate is evaluated in 2–10 minutes (depending on the duration of the interview).

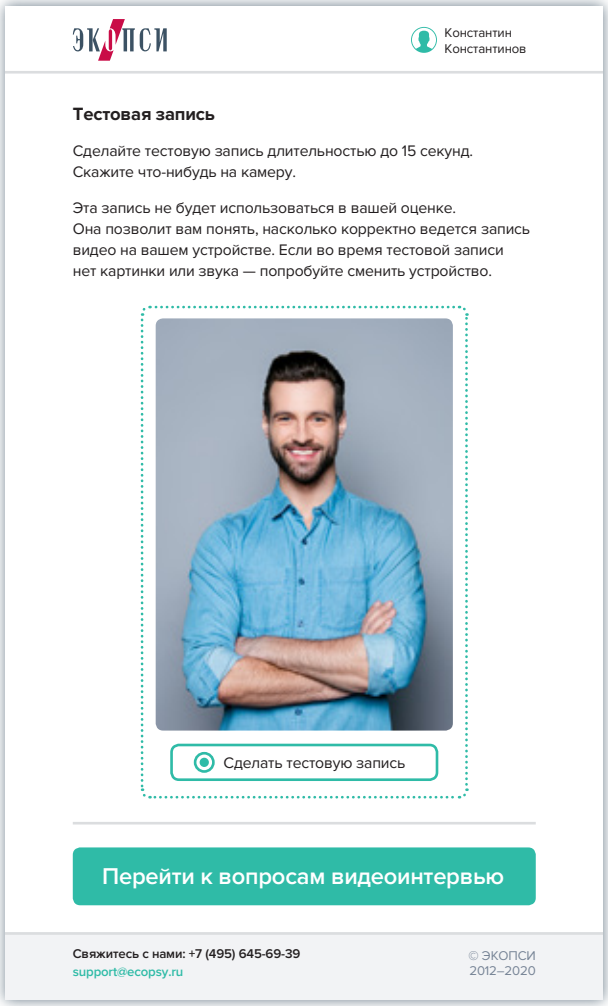
But the Echo has several limitations:

1. **The need for customization.** For the accuracy of the Echo, you need a sample and data — whom the recruiter rated as a good candidate, who is successful in the organization.
2. **Data dependency.** The Echo automates the patterns that are in the data. For example, if recruiters regularly prefer men of a certain age, the Echo, like any other AI, automates these discriminatory patterns. We have a way: to check the customer selection system for these patterns and align the results of the Echo concerning certain discriminated groups.
3. **The barrier of the user.** The readiness of people to accept the assessment of the machine. Candidates have to get enough information about the Echo technology before they begin to trust such an assessment.

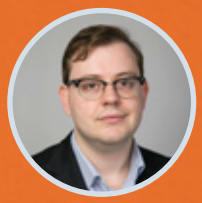
All these barriers are surmountable, and with the development of technology, their influence will decrease. While the advantages in the form of accuracy, speed, and lower risks of falsification will only increase the economic effect of the introduction of the Echo.

Figure 2. ECOPSY platform for video interviews.

ECOPSY offers its platform for video interviews, on which you can add candidates, send them links to video interviews, view answers.



The Real Profile of Effective Employee: a Research on Competencies in Russia



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Until now, most companies use competency models to evaluate employees and make personnel decisions. According to current research[1], 74% of companies use competencies, and competencies-based assessment is responsible for 43–64% of employee performance.

However, we at ECOPSY Consulting have always had a question — are in fact most of competencies one can find in a typical model have a correlation with performance? Is there a chance some of them exists out of some formality?

1 Fortune & Aon Hewitt, 2011; Headhunter, 2016; Korn Ferry, 2016; Towler and Britt, 2006

In the end of 2019, we have conducted a vast research of competencies based on Big Data. For a teaser, we have found out that of top-5 frequent competencies across many organizations, **there are only 2 that in fact predict high performance**. These are Accountability and Proactiveness. Most employees that have any other competencies from top-5 list, **tend to be the least effective in their organizations**.

Top-5 competencies in Russia:

1. Accountability.
2. Teamwork.
3. Leadership.
4. Proactiveness.
5. People development.

ECOPSY competencies' research

The competency research by ECOPSY Consulting is **the first competencies' research in Russia which was based not on opinions, but on real data on employee behavior and performance**.

The data we have gathered consists of some 80,000 employees from almost 30 companies, which differ in the size, industry, scale of operation and so on. During the research managers in every company have assessed their direct subordinates on two curial crucial criteria — their performance and what behavior they display at work.

We have applied modern methods of analysis based on AI and machine learning to the research data base, and have obtain:

1. A framework of competencies that exist in fact, as they reflect real behavior patterns.
2. Data on whether each of these competencies have a proven relation to performance.

Thus, we have constructed our **universal framework for competencies — DCM**, as for **Data-based Competence Map**. This framework contains 33 competencies group, which are united into 9 meta-competencies. They describe 93% of behavior-based criteria we have met in organizations through our practice.

RELIABILITY
Discipline
Diligence
Accountability
Decisiveness

THOROUGHNESS
Clear goalsetting
Adaptability
Planning
Strive for order

TEAMWORK
Willingness to compromise
Collaboration
Openness
Hearing feedback

COMMITMENT
Loyalty
Cooperation

CLIENT ORIENTATION
Focus on client's needs
Partnership

DECISION MAKING
System thinking
Business acument
Strategic perspective

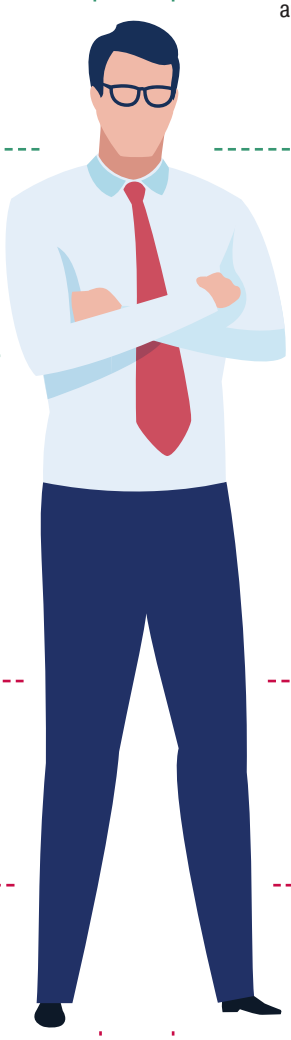
STRIVE FOR EXELLENCE
Strive to achievement
Self-development
Innovative approach

EFFECTIVE COMMUNICATION
Clear communication
Persuasion and influence
Negotiation
Cross-functional interaction
Informal leadership

MANAGEMENT PROFICIENCY
Execution management
Motivating others
Process management
Change management
Developing others
Team management

The profile of effective employee: what it takes to bring performance

Coefficient beside each competency — how much is it more prevalent on average among effective employees compared to others.



Accountability: +16%
Being ready to take responsibility and work persistently

Innovative approach: +10%
An eye for weak points and ability to propose improvement

Decisiveness: +9%
Making decisions, acting on decisions by own initiative

Self-development: +8%
The pursuit of development goals and openness to new knowledge

System thinking: +8%
Viewing the situation in it's full complexity and making data-based decisions

Discipline: +7%
Ability to organize your work with rationality

Openness: −8%
Being ready to speak openly, incl. problem topics, and express your opinion

Partnership: −8%
Building a personal contact with the client

Focus on client's needs: −8%
Understanding clients, acting and making decisions based on their needs

Hearing feedback: −9%
Being ready to hear feedback and change your behavior

Collaboration: −16%
Working out common goals and plan on working together to achieve them

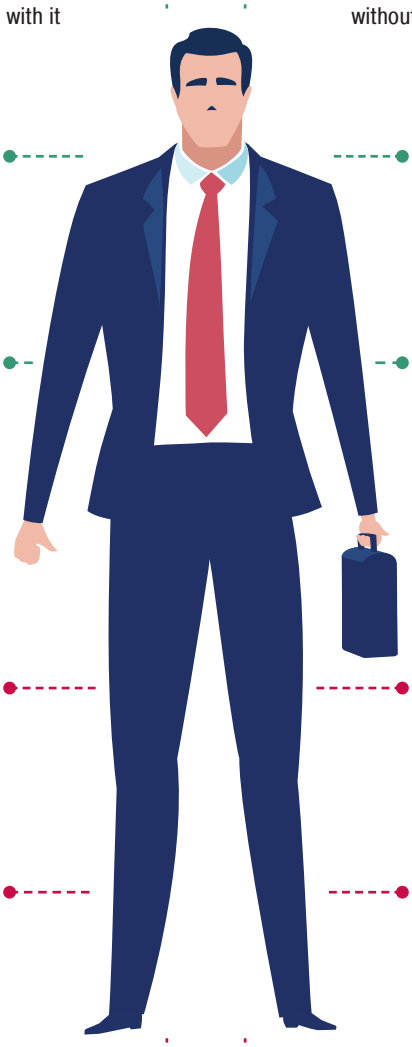
Willingness to compromise: −19%
Willingness to hear others and meet halfway if necessary

The perfect one, most effective employee in most Russian organizations is **individualistic and focuses completely on personal performance**. This competency profile of a person who is ready to solve current tasks with maximal output and autonomy.

At the same time, **this employee does not listen to others and is not attentive to their needs**, be it peers or clients. We can describe this person as tending to the win-lose behavior pattern.

Management profile: what competencies do current and potential managers need in Russia

Coefficient beside each competency — the probability with which a person with a high development level in this competency is a manager. Data from ineffective managers and employees are not taken into account.



Loyalty: +48%
Working towards organization's goal and being ready to tie your future with it

Informal leadership: +47%
Ability to unite others and influence without formal authority

Planning: +44%
Ability to prioritize and allocate resources

Persuasion and influence: +41%
Ability to establish contacts and persuade others

Accountability: +40%
Being ready to take responsibility and work persistently

Business acumen: +39%
Ability to understand the business environment and operate in terms of financial effects

Focus on client's needs: −37%
Understanding clients, acting and making decisions based on their needs

Collaboration: −37%
Working out common goals and plan on working together to achieve them

Diligence: −38%
Being swift and accurate with performing assigned tasks

Strive for order: −41%
Willingness to follow the rules and regulations on our own and demand the same from others

Cooperation: −42%
Being ready to help others and share resources

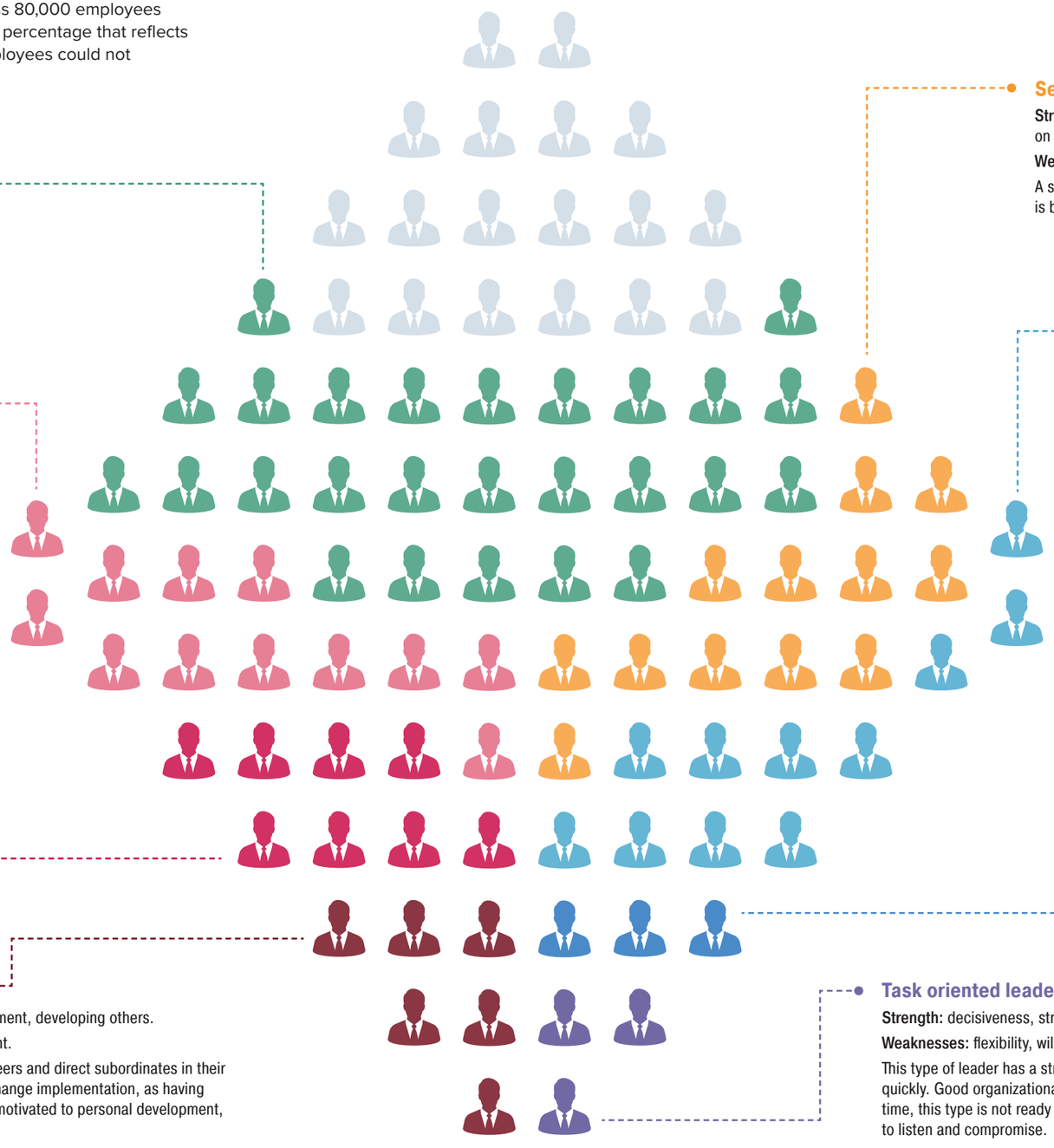
Adaptability: −47%
Adapting to changes in environment and changing your approach to work

The manager in Russia is a person who first is **loyal to the organization**. He or she also **knows how to establish contacts, influence others, plans his work, and understands the business context**.

The biggest "don'ts" to a management position are willingness to adapt to changes, following the rules and building collaborative peer relationships.

Employees of Russian companies. The people you meet and what to expect from them

We have analyzed all possible patterns of competencies across 80,000 employees in the research data and revealed 8 types. Each of them has a percentage that reflects how common is it in Russian organizations. Almost 19% of employees could not be described as any type.



Average at best / 26%

Strength: adaptability.

Weaknesses: business acumen.

These employees do not stand out and usually are a type of jack of all trades. Usually they are more ready to change, yet poorly understand the business context.

Dreamer / 12%

Strength: adaptability, innovative approach, self-development.

Weaknesses: willingness to comprise, hearing feedback, business acumen.

A dreamer is sensitive to a change, proposes new ideas and wants to grow and develop. At the same time, the ideas may not coincide with the real conditions of the business, while a dreamer is not ready to compromise or to listen others' reaction.

Efficiency expert / 8%

Strength: discipline, innovative approach, hearing feedback, business acumen.

Weaknesses: clear goalsetting, strive to achievement, strategic perspective.

An efficiency expert understands the business and looks for improvement possibilities. At the same time this type may lack a vision of today and future results, as well as simple courage and readiness to risk.

People oriented leader / 6%

Strength: cross-functional interaction, team management, change management, developing others.

Weaknesses: self-development, strategic perspective, delivery management.

This leadership type is capable of forming cross-functional team, support peers and direct subordinates in their development. A people oriented leader can convert his social capital into change implementation, as having good relationships helps to overcome resistance. Typically, this type is not motivated to personal development, has a short time horizon and bad at managing operational work.

Service man / 13%

Strength: diligence, focus on client's needs, partnership, focus on client's needs.

Weaknesses: efficiency, negotiation.

A service man's primary need is being useful for others. Usually this type is bad at organizing his/her work or holding his/her ground in negotiation.

"The life and the soul of the party" / 10%

Strength: strive for order, willingness to compromise, collaboration, leadership.

Weaknesses: accountability, decisiveness, innovative approach.

This type of person is committed to compliance with all standards and agreement and usually is a center and emotional leader among his own. The main problems are unwillingness to take responsibility and make decisions, while the desire to please everyone does not allow him to think independently and propose anything new.

Ambitious loner / 3%

Strength: accountability, strive to achievement, self-development, system thinking.

Weaknesses: strive for order, loyalty, collaboration.

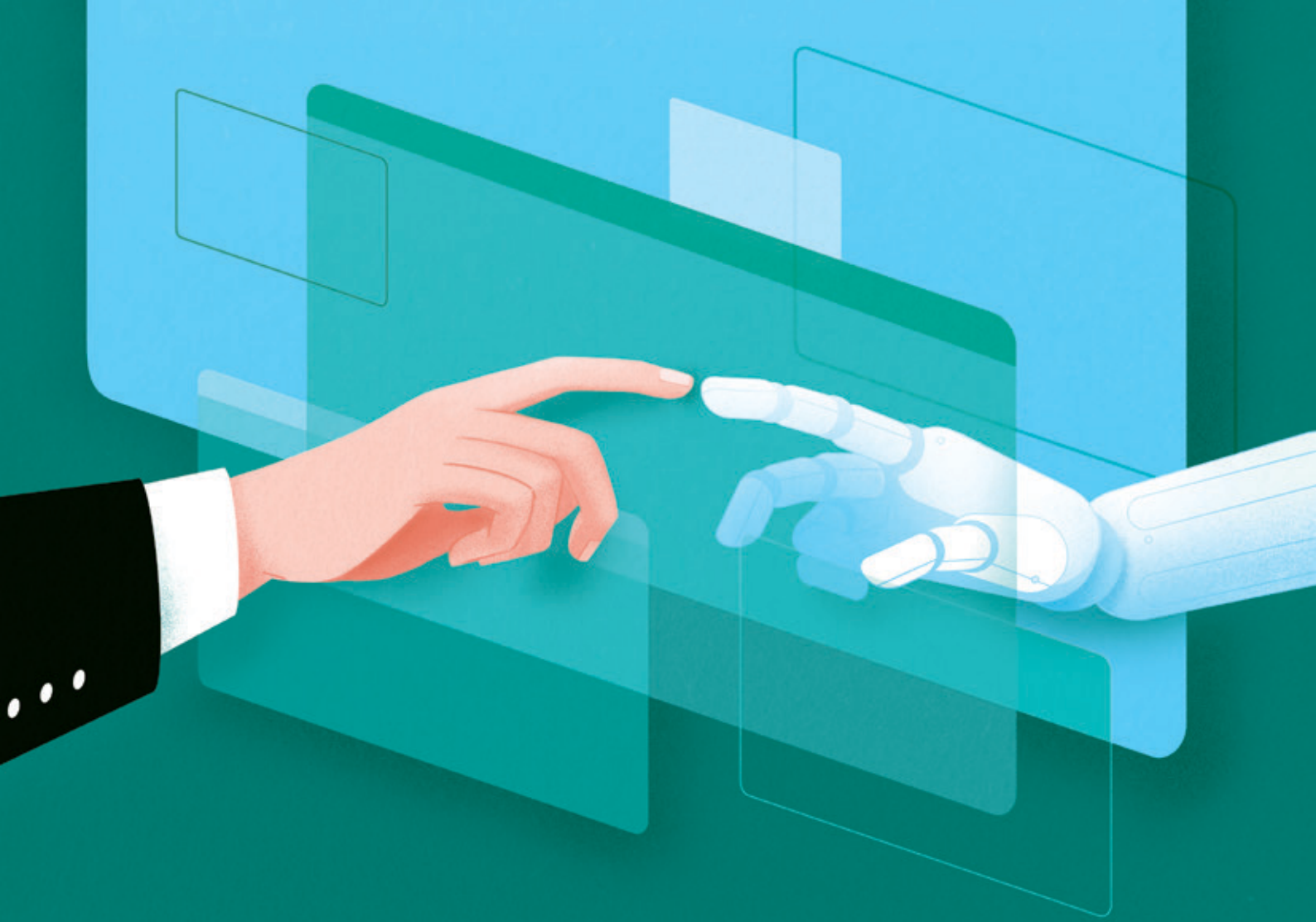
An ambitious loner is focused on results, high achievements, competition but ready to cut corners if necessary. This type sees his results as individual and is not ready to cooperate with others.

Task oriented leader / 3%

Strength: decisiveness, strategic perspective, execution management, process management.

Weaknesses: flexibility, willingness to compromise, hearing feedback.

This type of leader has a strategic, long-term vision and is ready to make the necessary decisions quickly. Good organizational skills allow him/her to achieve results by the work of others. At the same time, this type is not ready to turn off the intended path due to changes in the situation, not ready to listen and compromise.



Delta.ai. Predicting Employee Behavior with Artificial Intelligence

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Artificial Intelligence (AI) can significantly increase the precision of such familiar tools as personality questionnaires and tests. In result questionnaires do not change in appearance — the person still answers questions or solves tasks, — but complex algorithms based on machine learning are applied.

There are just a few tests abroad that use AI, such as Plum and AssessFirst. The first company in Russia to use artificial intelligence in questionnaires and tests is ECOPSY Consulting. We have been working on this technology for two years, building a questionnaire that we call delta.ai. The Greek delta in mathematics is used as a symbol of discrepancy; in our terms it is the difference between employees with high and low performance, which we can evaluate by assessing their competencies.

Personality questionnaire and deception

Personality questionnaires are an extremely popular assessment tool: they are used by about 50% of Russian and foreign companies (Church, & Rotolo, 2013; ECOPSY. 2016). However, standard personality questionnaires are less accurate in assessing competencies than other assessment tools (see Table 1).

Table 1. Comparison of the accuracy of various tools in assessing competencie.

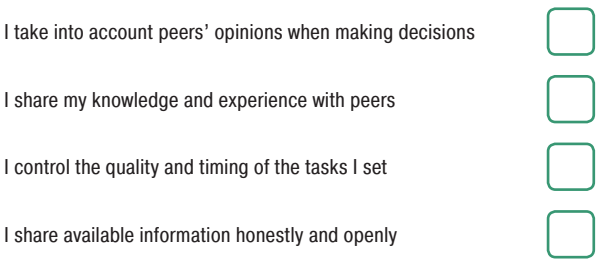
Tool	Accuracy in competency assessment (correlation with the assessment by managers and peers)
Assessment center	0.5
Interview	0.28
Personality questionnaire	0.16

References: SHL, 2009 (p. 46); Darr, & Catano, 2008; Hagan, Konopaske, Bernardin, & Tyler, 2006.

The relatively low accuracy of questionnaires in assessing competencies has several reasons:

1. **People tend to give socially desirable answers.** According to studies, 30% of people falsify the results of questionnaires used in HR (Griffith & Converse, 2012). Candidates describe themselves in an incredibly positive way — as exclusively responsible, cooperative and trained people. This leads to an artificial overestimation of the results: up to 40 (out of 100) percentiles of growth (Viswesvaran, Ones, 1999). As a result, the validity of the questionnaires decreases and, more importantly, the accuracy of personnel decisions decreases. Thus in the subsequent stages of the selection funnel there are less suitable candidates, who could deceive the questionnaire.
2. **People are prone to self-deception when responding to questionnaires.** A person describes his behavior as he sees it, because of this he may be mistaken in evaluating his actions. This happens unconsciously, in contrast to targeted actions, when people give socially desirable answers.
3. **Personality questionnaires measure tendencies, but not behavior itself.** This is due to the fact that they were originally developed for a research context, and not for competencies assessment. In the 2000s, with the development of the competency-based approach, test providers began to set up their questionnaires to assess competencies (Bartram, 2005; Hogan, 2007; Savile Consulting, 2012). But their approach cannot be called successful. For example, consultants acted on the assumption that if a person has a high score on the "Extraversion" scale, he also has a developed competency "Building Partnership". Although the relationship between traits measured by questionnaires and behavior is non-linear and not always obvious (Blacksmith, & Yang, 2015; Converse, & Oswald, 2014). For a person who describes himself as persistent in the questionnaire, which is traditionally associated by consultants with the Accountability competency, this competence may actually not be developed.

Figure 1. An example of questionnaire screen.



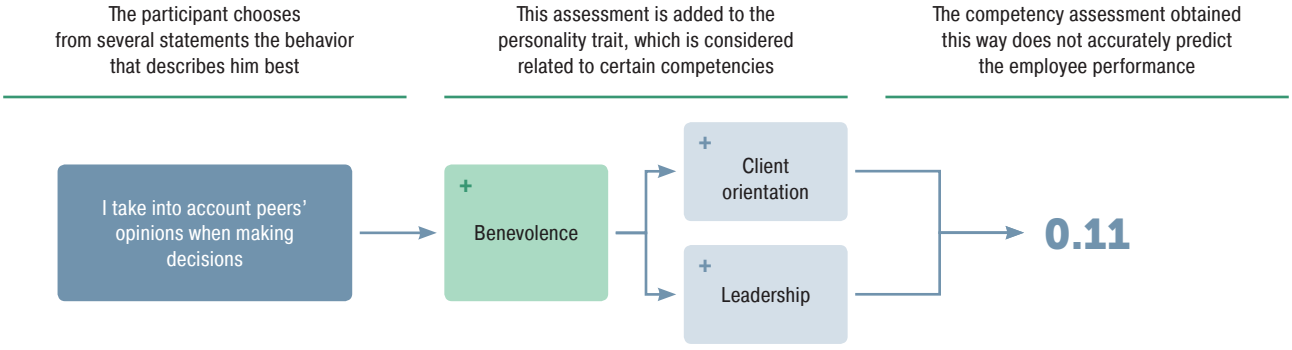
The principles of the new generation questionnaire

The delta.ai questionnaire works in a completely different way. Our experts have analyzed the data of 15,000 employees using artificial intelligence. All of them passed a questionnaire measuring their competencies, and they were also evaluated by their managers and peers. Based on these data we constructed a model that predicts real observable behavior based on one's self-report in the questionnaire.

To illustrate how delta.ai works, imagine that a person sees four statements on the screen and selects one that describes him best (see Figure 1).

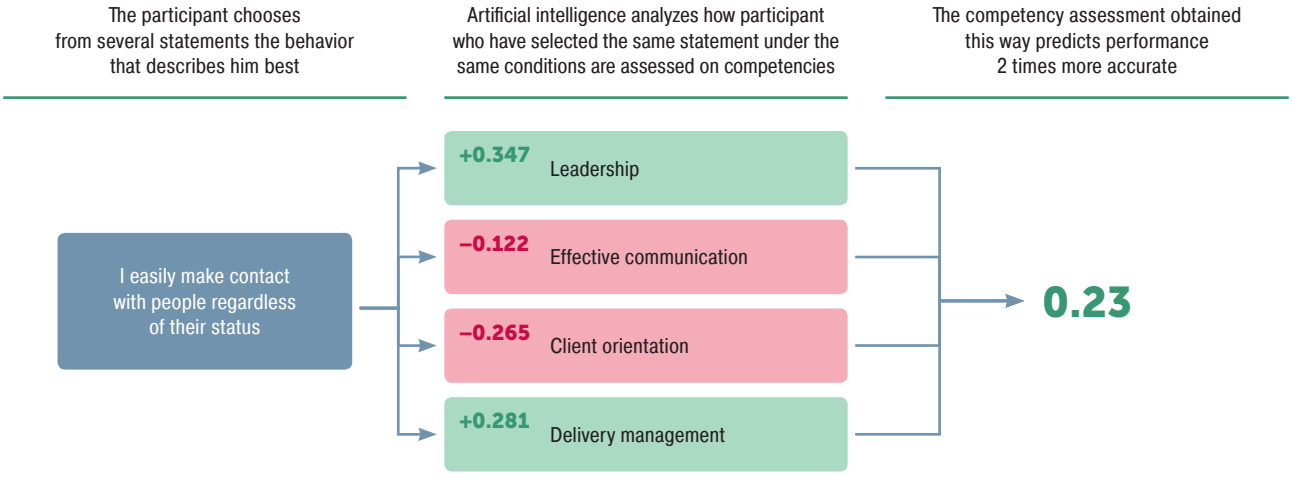
Imagine that a person chooses the first statement “I take into account peers’ opinions when making decisions” as describing him best. In the standard personality questionnaire, he will receive an extra point for this to some of the personality characteristics. In this case, it is Benevolence. In order to get a competency rating from a Benevolence score, the experts developing the questionnaire make their judgment: friendly people are more attentive to the client and show better leadership qualities. Thus, a high score for Benevolence turns into high scores for the competencies Client Orientation and Leadership (see Figure 2). As the data show, if an assessment of competencies was obtained in this way, it does not accurately predict the employee performance; in other words, the key property of competencies (as something needed to bring performance) is lost with this assessment method.

Figure 2. Scoring algorithm for competencies in a standard personality questionnaire.



The delta.ai questionnaire works on a fundamentally different technology: it takes into account not only what description the person chose for himself as the best, but also with what other statements he compared it. Further, participant’s answers are compared with an extensive database, and artificial intelligence algorithms selects the most response pattern for him by finding people who described themselves in the questionnaire in the same way the participant did. A group is formed by people who answered questions in a similar way, and a new comparison is conducted: AI analyzes how people with such response patterns were assessed on competences by their managers, and completes a model by providing a prediction of what the potential assessment would be, for those who were not assessed by a manager yet (see Figure 3). One added value of this algorithm is that response patterns are far from obvious and too complicated to be guessed. This eliminates the social desirability in response pattern.

Figure 3. Scoring algorithm for competencies in the delta.ai questionnaire.



Benefits of using AI in questionnaires

The approach described above solves the numerous problems of standard questionnaires:

- **delta.ai is protected from social desirability.** The relationship between statements and competency score is non-linear and non-obvious, so it will be much more difficult for a person to cheat with delta.ai than with other questionnaires.
- **delta.ai measures competencies directly, not tendencies and attitudes.** In this questionnaire, there is no unnecessary step with the assessment of personality traits, and then their expert mapping with competencies.
- **The delta.ai algorithm analyzes a comprehensive response pattern and utilizes it to assess each competency in the model.** All significant qualities of an employee can be assessed in just 10–15 minutes.
- **delta.ai is based on a universal competency model** developed by ECOPSY Consulting based on big data. Thanks to this, the questionnaire is easily tuned to assess only those competencies that are significant for each company.

In result, the validity of delta.ai exceeds standard personality questionnaires both in predicting competencies and performance (see Table 2).

Table 2. The validity of delta.ai and standard personality questionnaires.

	Standard personality questionnaires	delta.ai
Competency prediction	0.24	0.38
Performance prediction	0.17	0.23

Reference: Salgado, Anderson, & Tauriz, 2015.

Universal competencies assessed in delta.ai

The delta.ai questionnaire assesses 33 competencies grouped into 9 meta-competencies.

This is the DCM (Data-based Competence Map) — a universal competency framework, developed by ECOPSY Consulting based on data of 80 000 employees from a variety of Russian companies. They cover 93% competencies met in typical competency model. You can find out more about the universal competency framework in the infographic.

RELIABILITY
Discipline
Diligence
Accountability
Decisiveness

THOROUGHNESS
Clear goalsetting
Adaptability
Planning
Strive for order

TEAMWORK
Willingness to compromise
Collaboration
Openness
Hearing feedback

COMMITMENT
Loyalty
Cooperation

CLIENT ORIENTATION
Focus on client's needs
Partnership

DECISION MAKING
System thinking
Business acument
Strategic perspective

STRIVE FOR EXELLENCE
Strive for achievement
Self-development
Innovative approach

EFFECTIVE COMMUNICATION
Clear communitation
Persuasion and influence
Negotiation
Cross-functional interaction
Informal leadership

MANAGEMENT PROFICIENCY
Execution management
Motivating others
Process management
Change management
Developing others
Team management

The case of Kronstadt Group: using data-based approach with DEEP and delta.ai to build a competency model and assess employees

Told by Elena Vasilevskaya, Head of training, development and internal communications department, Kronstadt Group.

Kronstadt Group is a Russian high-tech company engaged in the development and production of high-tech products and solutions necessary for the creation, development and safe operation of complex technical equipment in the air, at sea and on land.

In 2018, Kronstadt Group decided to create a competency model. The need for it was long overdue: the HR itself was well organized, but there were no uniform criteria for the quality behavior of employees. It was necessary to reveal our personal DNA code, to formulate assessment criteria, which would also become the basis for making more balanced personnel decisions and would bring a more individual approach in training and development.

Initially, the company planned to develop competencies in the traditional expert way, and we still consider this approach a working one. However, as a result of comparison with DEEP (Data Enabled Employee Profile — developing competency model based on data analysis), the choice was made in favor of the latter: developing of a competency model using DEEP is based on an online survey, which saves time, is comfortable for participants, while results stay highly precise. The project took us several months. The technology itself allows to make it much faster, but we faced some limitation with our employees having high workload at the moment.

As a result, we got a simple and understandable competency model, described in our language, and ready to use right after. It was close to me personally, and to the Company employees in general.

A year later, we again turned to ECOPSY Consulting. We needed to create a HiPo group and assess employees before them joining projects. The consultants proposed to use delta.ai, a specially designed personality questionnaire that provides competency scores using artificial intelligence. Since we were not familiar enough with the tool, besides interest, there were doubts if it would suit us. However, our partners at ECOPSY Consulting provided some sound argument, and in combination with high-tech nature of the delta.ai it convinced us completely.

The assessment was based on the competency model we have developed before. We have assessed more than 50 employees at the beginning of the Kronstadt Leader project. The project goal is to develop the management skills of mid-level technical managers. It was important for us to take an assessment before employee joins the project and at the end of the module-based development program in order to evaluate the changes. Based on the assessment results, we have introduced personal development plans. Soon we will start to form the HiPo pool for several key roles in the engineering bureau and plan to use competency model as one of the selection criteria.

Any companies that want to implement such projects may face employee resistance. We went through this: employees had doubts about the technology used and the expected result, because this form of activity was completely new to the team. Therefore, an extremely important step in such a project should be paving the way for assessment processes. You need to spend a lot of time for communication on the project before its launch, and make clear for employees what are their benefits from the project, but not only for the Company. Employees should be able to ask questions and HR to answer them, then all participants in the process will be engaged. We had people of highly intellectual technical professions which think critically and don't take anything on faith taking surveys and assessment, but we managed to work out even their questions. We occasionally engaged people from ECOPSY Consulting to the communication and together managed objections from employees.

Using the competency model developed with DEEP and assessing employees with delta.ai we were able to increase the objectiveness of assessment, make it more large-scale, and also simplified a lot the assessment process with employees in other regions.

Summing up, I would like to note that our company likes everything that is orderly, logical, and systematic, so we are confident that the future lies in technological projects based on artificial intelligence.

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delta.ai:

http://pif.ecopsy.ru/delta

How to Deal with Payroll System Easily

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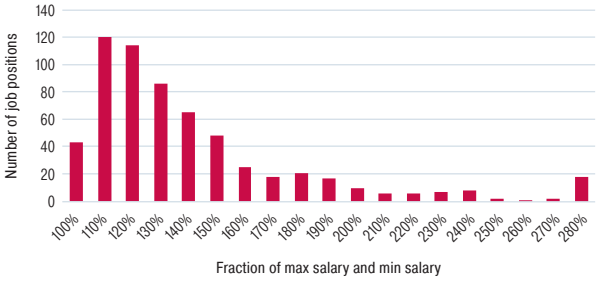
Most of the companies on the Russian market face the challenges of organizing and working out the workers' remunerations. It is frequently that neither HR departments, nor managers and subordinates completely understand why same-position employees get different pay.

Historic background

Salaries and following renegotiations used to be the result of the dialog between an employee and its employer. To this day this system works in small to middle companies. The issues start to arise as the payroll grows. Without the regular systematization setting the salary and giving a raise are not transparent and more often than not it births a conflict. Having just a budget control only helps to stop an uncontrolled payroll growth and as the result the difference in salaries for the same position within the division may go up to being threefold (see Figure 1)!

Figure 1. Difference in salaries for the same position within a division.*



300%
may be the difference in the salary of employees on the same position

31%
of the employees are overpaid**

* Data of one of the ECOPSY clients.

** Salary of 31% employees higher than the minimum salary of the same job position at least by half.

To solve this problem a new approach was born in the 1960s: grading. Up to this day the systems were developed by either of two methods:

1. **Knowledge-based development of grade system for a specific company.**
   HR team or external counsel decide the criteria of the income level in the company and their "weight" in the grading system.

2. **Implementation of a pre-developed grade system.**
   There are already made systems on the market: criteria and weights for calculating the overall score are ready, the company just needs to evaluate its employees, put the values in the model and compute the grade.

The problem of the both methods is that in most cases the final grading system is far from reality. To reconcile the actual salaries and the model, the payroll has to go up by 30% or 25% of employees have to get a considerable wage cut and none of these is feasible for most of the companies. So right at the beginning of the implementation of such a system it already has so many exceptions that nobody gives it a credit. In a couple of months of implementation the managers start to create more exceptions and after a year the system remains mere ink on the paper.

With the growth of computing power a new third method was developed:

3. **Mathematical tuning of the system for the company.**
   This is an absolutely different approach. The criteria are chosen together with the top management team while weights and system parameters are calculated mathematically based on the actual salaries data. This allows to minimize discrepancies, which directly relates to the success of the system. ECOPSY consultants have been practicing this approach for a long time and have developed grade systems for many companies. The main drawback of this method is its resources consumption: numerous elements (criteria, job evaluations and final system parameters) have to be negotiated with the management. Development and choice of optimal criteria, assessment by the management or by a special assessment committee is a costly and lengthy process.

Many companies approached ECOPSY with problems of transparency lack in the salary system and most of these have not been solved due to high resource cost of the process. The solution turned out to be both simple and complicated: an AI has been involved.

"To grade" means to separate things into different groups according to quality, size, importance, etc. [*Macmillan dictionary*]

Grade system is a vertical structure of positions grouped by their value to the company which allows to build a well-defined and fair system of setting salaries depending on individual's value to the company.

The principle of grading is to weigh the internal value of the positions for the company ("internal value") against the market value of the job ("external value"). Each company builds up the grading system in its own way given its distinguishing characteristics, value of each employee and his or her contribution to the business.

General characteristics of the grading system:

- company distinguishes a limited number of grades, usually there are from 10 to 15;
- there is a salary bracket for each position under each grade, the difference between the upper and lower limits is 20 to 50%;
- the value of the position is estimated according to a set of scales and criteria which is uniformly applicable within the company.

Example of grades and base salaries

New approach with an AI

New approach is not a "grading" but it has the same idea: to analyze the value of the employee for the company and to compare it with the salary. The main differences from grading are as follows:

- it is not necessary to spend time to choose and approve "ideal criteria": all the criteria are put in the model and the AI choose the "ideal" ones;
- the criteria valuation is much simplified as the AI weeds out the subjectivity of some evaluators.

All of this allows to finish a project within one to two months instead of usual three to four months required for a grading development.

Methodology

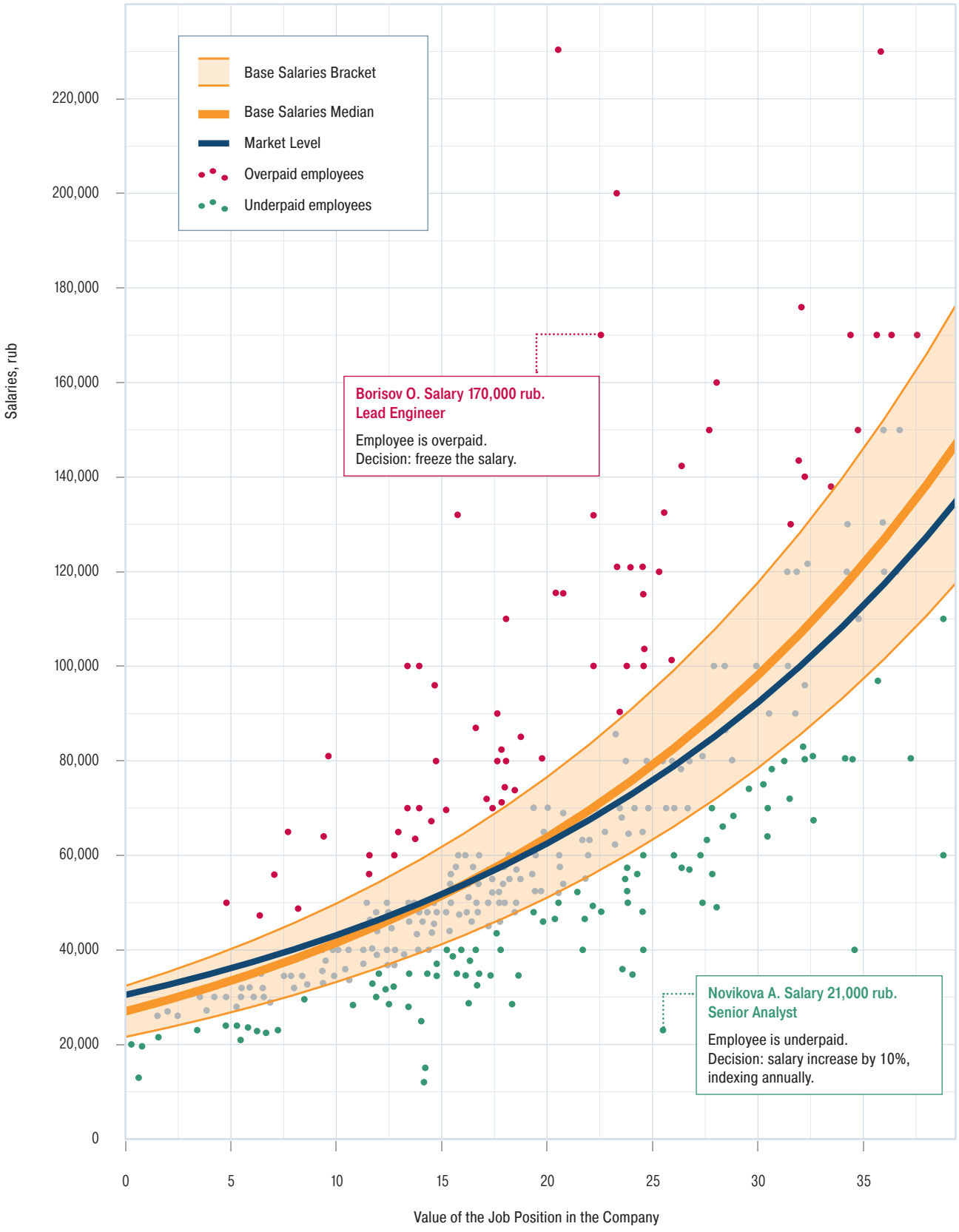
Any project with the use of AI starts with gathering the maximum amount of data. In this case these are the criteria which may be relevant to the employee's salary and any available pertinent information. The volume of data, its accuracy and up-to-dateness directly influence the accuracy of the model and its results.

Data gathering comprises of two parts:

1. **Gathering statistics on a position.**

   These are financial results of an employee's work, number of subordinates, main and extra education, level of external company representation.

Figure 2. Actual Salaries, Market Salaries and Base Salaries.



2. **Managers' survey.**

   Why is it important and necessary? Unfortunately, the data on most criteria which influence the wage level is impossible to collect. E.g. such criteria as "Level of decision making freedom" or "Level of internal company communication" are expert estimates. Information on these criteria is gathered by a managers' survey. During the survey managers assess the employees — their subordinates and colleagues from other divisions they work with — and rank them by the importance of a criterion in their work. E.g. the operator working according to the script has the lowest rank in the "Level of decision making freedom" while for PR specialist it is much higher. The survey is conducted in such a way that each worker is ranked by 3 to 5 managers, which allows to avoid subjectivity. Then, the survey results are checked by the AI to see if managers tried to under-/overrate the value of their subordinates in the ranking.

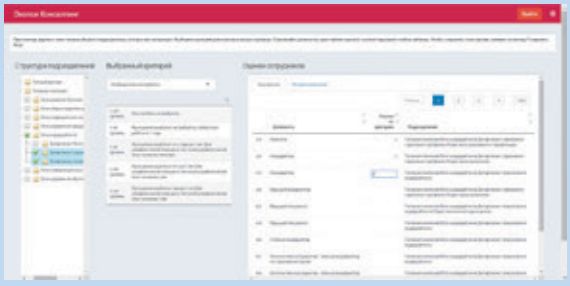
Modelling

1. Based on the managers' survey the model builds a scale for each criterion where all the employees have score.
2. The score is put in the 2nd wave of modelling. The AI uses these values and employees' current earnings to calculate the overall rank: every employee is assigned with its position score. If the position score is low and the salary is higher than that of others — this employee is overpaid, if the position score is high and the salary is low then that employee is underpaid.
3. Additionally, the model may include a sample of positions linked to the market salary level. In such a case the model calculates a market average wage for all the positions in the rating. The system also estimates the recommended salary bracket for each position score (see Figure 2).

Reward Design ("ReD") platform

In order to streamline the project and help the clients use it to order the payroll system, "ECOPSY" has developed an online app — ReD (RewardsDesign). It allows to considerably facilitate several key stages in such projects:

1. **Positions assessment under criteria.** ReD platform supports simultaneous access of several evaluators, tracks any changes in assessments, features fast navigation between divisions.
2. **Scenario modelling.** The main advantage of the platform is that it allows a real-time recalculation of payroll and percentage of over-/underpaid employee based on varying the system parameters.
3. **New salary approval.** Rewards Design allows to avoid manipulations and dragging out of the salary change approval. Managers set new salaries themselves under the approved rules.



Next steps

Based on the model the client makes a decision on how to deal with underpaid and overpaid employees going forward. There may be several scenarios varying by the severity of the actions to be taken.

The first scenario is to move from the developed model to a grading system. During the analysis the AI distinguishes the criteria which influence salaries. Using the most significant of these criteria it is possible to develop a classic grading system.

The second scenario is not to adopt a rigid grading system but to work only with a few positions or employees. Some positions may be overpaid due to the market circumstances. E.g. IT specialists are highly valued on the market at the moment. For a regular company IT specialist has the same value as a lawyer, so she will have the same score in the ranking system. At the same time the salary may be considerably higher. Such positions are overpaid but it is so due to external factors. But in any case there are always a number of employees who are overpaid without visible reasons. How to deal with them? Salary cut will most likely force them to leave, so this move should always be carefully thought out. A less drastic approach is to freeze the salary and allow further indexing only for the most effective employees in that category.

A similar approach is viable with underpaid employees: you may increase their pay gradually or at once if they are effective and valuable for the company.

There is an ethical dilemma in any project regarding setting the payroll system in order. What impact will all the changes related to such a delicate topic as salaries have on the employees, social and psychological climate within the company? Will it blow up? Due to this very reasoning many clients hardly resolve to implement a grading system. The solution in the ECOPSY projects may be the following: when the model is developed with the AI it is feasible to account for many specifics and fit it as accurate as possible so that the number of outlying employees will be minimum. In such a case the difference in salary will be within 10% and this discrepancy is easily fixed by a small raise or temporary salary freeze. As the result, only a small group left (7–10% of employees) to be dealt with individually. So the client should not be worried about any social blow-up. And, for sure, this should not be a reason not to clean up the payroll system.

“I’m excited about how people in organizations work, so I quantify them...”

Paul Degtyariov

Product Development Director at ECOPSY

This HRT issue is dedicated to HR-analytics and AI. One of the most experienced people who is behind it in ECOPSY is Paul Degtyariov. We talked to Paul about engineering approach in analytics, why gathering data takes 90% of time, joys & sorrows in analyst's life and New Hollywood movies.

— Let's start from the very beginning. How did you get into psychology, psychometrics, and HR analytics?

— When my time came time to join a university, I picked from two areas — foreign languages and psychology. It happened to be that I've finally went with psychology. But I got a bit carried away with it, and this random choice became no coincidence. Psychology is an extremely broad science. Most of my mates studied the therapy side of psychology. I was interested in something else: how to ask people questions correctly, how to properly process the data received, draw conclusions and apply statistics to it. After graduation, I worked in recruitment, a real headhunter, calling under legends and so on. Around the same time, I met Eugene Lurie and Yuri Shatrov, who has already worked at ECOPSY Consulting, and soon began to work here myself. The first year at ECOPSY I was developing exercises for assessment centers, but then it became clear that I still have my scholar interests in how to correctly ask questions and analyze the answers. So, I became a HR analyst.

— HR analytics is a new area, and it requires an expertise in many domains. Which, in your opinion, are the most important?

I was interested how to ask people questions correctly, how to properly process the data received, draw conclusions and apply statistics to it. So, I became a HR analyst.

— There are three domains in which HR analyst needs to be proficient. First is math and statistics in particular. Second, you need to be able to program, because any serious data analytics is in fact programming. Thirdly, you need to have expertise in some specific area that you analyze. To be a good analyst, it is not enough to be good at mathematics and understand how to read data. You need to understand where this data came from, conditions it was gathered under. In the HR case it means to understand to whom and what questions were asked, how people answered them. This is crucial information for drawing conclusions. For me, the sphere of interest has always been assessment, I understand a little more about it than about the rest of HR, therefore it is easier and usually more interesting to work with the assessment data. I can quickly check which tools work, which don't, how to put them together correctly, where to apply, etc.

— So, you are a psychologist with a background in foreign languages. Where did mathematics and programming came from?

— These I took on while working at ECOPSY. Psychology and assessment were before that, yet I learned to program already in the process of becoming a HR analyst, and studied math, too.

— Your position is called a product development director. What does it mean?

— In our case, the product development director combines three functions. A technology leader — chief technology specialist: one must understand how everything works and where it should develop. Speaking in technological language, be responsible for the back end. You need to know by name all the cogs that spin inside, know how they should work now and in the future. A marketing leader — participating in the creation of all content about the product: you need to create presentations, promotional materials, bring all the information to the audience by personal meetings, conferences, webinars, etc. An operational leader — being the one responsible for the implementation of projects where your product is used. These three things is what I do: I do projects that use my products, I promote these products, I develop products so that they work well, meet the market needs and improve with time.

— Let's talk about the products. Which are yours?

— The first is, of course, DEEP. In it's core is a way to look into people in a company, to understand what are they like, what they do at work and what not, which behavior helps them, supports high performance, and which, on the contrary, interferes, is unnecessary in this company. As a product, DEEP functions either as a diagnostic method that helps to understand the organization as a collective of people, their corporate culture and values, or as a way to establish how we want our employees to be. Knowing what makes people effective now, you can set it as a standard and put it in the very heart of the HR system: start selecting such people, help development to come the right direction, and promote those who have the right qualities. DEEP was not invented by me; it was introduced by Gregory Finkelstein. I picked up the flag and carry it on.

The second product delta.ai was invented by me. It has an appearance of a standard questionnaire, in which people self-reporting on which statements describes their behavior best. For example, is he is more about strictly following the rules in his work or achieving result at all costs. The options to choose are quite cunning: any statement describes you as a goodie, but you must choose one. The trick is that the one's answers are not used to make inference on behavior directly: the questionnaire won't conclude that you are very ambitious and result-oriented if you just say that you neglect the rule in favor of the result. Quite far from it actually. We search through a large database where people who have already passed this questionnaire are recorded, and for whom we know how they actually behave at work based on actual assessment procedure. By linking the real behavior and the response pattern in the questionnaire, we can compare the data and find out who the respondent match with. Basically, how people who describe themselves same as you do tend to behave in a real life.

This approach is instrumental to avoid so many problems you usually face in online assessment and questionnaires. It's not a secret that people lie like there is no tomorrow when passing this type of assessment, either because they are trying to seem better than they really are, or because they are honestly convinced that they are just like that, although their behavior is different from their self-image. That's a common picture. But with delta.ai we ignore these problems; we go along the bypass route. We look at how the response pattern is correlated with his real behavior to figure the rules and relations, then we can take the pattern of answers only and restore the second part, the way this person behaves in real life. We understand how the person will actually behave, we predict his behavior, which is in fact assessing the competencies. A person just describes himself in 10 minutes, and we get the information that matters, which is not if he is extroverted, rigid or friendly, but direct prediction of his behavior, using competencies terms: how responsible, decisive he is, whether he knows how to manage execution.

At the same time, since we avoid a lot of problems with such a complex design, we get more accurate in prediction of performance, too. According to our data, delta.ai allows to predict who will bring better performance and who will not.

— How did the idea for this product come about?

— It's my personal belief that any decision, including management decisions, must be made on the basis of data. This is the so-called evidence based approach. Hiring, training, or promotion should be decided on by referencing the real data, so that the decisions made come to be beneficial. DEEP is built on the same idea: we are trying to create a competency model that best reflects what you need to be in order to be effective in a specific company. With questionnaires and tests the idea is quite the same.

We had several attempts at developing a technology that will assess competencies directly, without the personality traits proxy. Of course, it should have been as precise as possible to help people without deep psychological expertise to make good personnel decisions. Several times we tried to do it with our clients using standard questionnaires for this: a specific answer to the question gives one or another personal characteristic, which is then interpreted and adds a point to the competence score. Then I had this idea to try and get rid off the middle in the middle which is personality traits we assess first. The way to do it was to create a direct recalculation algorithm using a large pool of data on how one's self-report correlates to the real behavior. This idea lived for some time, then we did a lot of projects to develop competency models using the DEEP approach, gathered data on 80,000 employees, which is quite a massive database for this type of data. My colleagues and I utilized it into a universal competency framework (DCM — Data-based Competence Map), just gathering together all those competencies that usually have place in almost any company. After that all it took was just take a step in an opposite direction — reformulate indicators from the universal framework to the format of self-report, so that a person passing questionnaire would provide a self-description in framework's terms. The whole process took about a year and a half.

— Is there something similar to it anywhere? I mean, what is HR analytics globally. Do you follow the news?

— I look at it, but rather with one eye. What we do at ECOPSY — DEEP, delta.ai, BOND (an approach for designing an organizational structure based on real data) is all quite an unconventional HR analytics. Traditional HR analytics is more of analyzing operational HR indicators. The term HR analytics itself is a tracking of how many people we hired, how many vacancies we have open, when people left, for what reasons, with what period, did they manage to reach the break-even point before leaving and other similar things that are related either with the number of personnel, with the replacement of positions, or with the C&B. This is a classic HR analytics that has existed almost always. Even the way production rates were calculated for workers at Ford factories is in fact HR analysts. We call it HR analytics of reporting, when we use data to track and control personnel.

What we usually do is an emerging approach right now — HR analytics that focuses not on staff units or salaries and bonuses, but on employees, people as themselves, their features and what helps them to bring performance. Among all the HR analytics that is done globally, I'd say it's like 10% of things are about people, and 90% — about operational processes. We call it HR analytics of research, because these are not systematic processes, but some one-time research actions: we go in, we need to create some data, as it's usually not just laying out there unlike salary data, do research. We process the data according to principles similar to academic research, using a similar math and methods, we get the result and implement it in the life of the company, and that's all. There are clear start and end to this.

It's my personal belief that any decision, including management decisions, must be made on the basis of data.

— What are you most interested in projects? What inspires you in your work?

— Product development in our case is absolutely inseparable from current projects. This is one and the same process. Our products are based on data that is not ready — special measures must be taken to make this data appear, therefore without doing projects it is impossible to develop products. The cycle of work and product development is the same. This is a standard engineering approach: there is a problem — you come up with a solution for it. If the solution is technological and can be scaled, repeated, and if it is good, i.e. solves a problem — it becomes a product. Further, the same approach can be used for other similar problems, and in fact this is a transition to the product life cycle. This is a classic engineering development that has existed for many years.

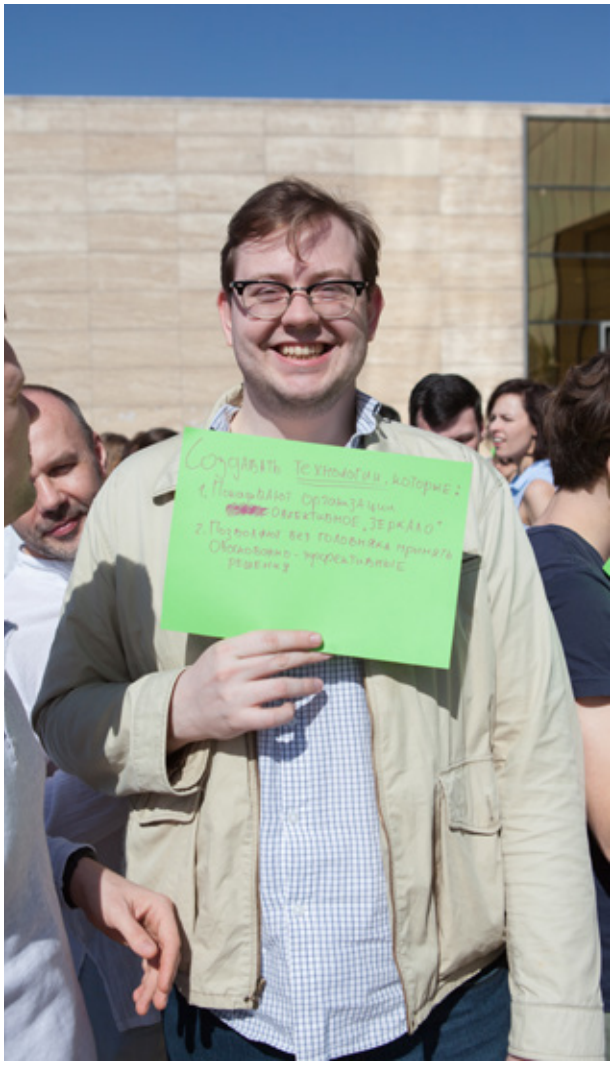
I'd say it is research and engineering interest that motivates me the most. I'm excited by how things work in general, including how people work in organizations. Therefore, I am passionately translating them into numbers so they can be counted and elevated to some kind of a general picture. What works in this company in a certain way but behaves completely different at another one. Here we see that linear management is just a damper as they transfer executive will from top to bottom, dampening the signal on the way so that people below are not crushed.

And in another company, linear management are absolutely independent people who constantly bite off a piece of power, trying to build some kind of mini-company directly inside the organization we research. You get to see all these things and it's fascinating. Just like in the movie "The Matrix", where characters look at the screens with numbers falling down and figure something in it [cracks a smile — *editor remark*]. Moreover, when you begin to understand something then you have found a fairly accurate way to describe it. It means you have solved a technical problem which is quite cool on its own.

The second source of drive for me are these technical, engineering problems: to come up with a solution that will allow you to solve the problem well, quite technological as it's based on data and not on the speculation or charisma of an expert, etc. This is a big drive on its own right.

— Okay, it's clear now with inspirations, but is there anything that makes you upset and worried?

— HR analytics is not the easiest field mostly because the culture of data management in Russia leaves much to be desired. Even fairly large companies in Russia tend not to have a single database that record all information about personnel. I'm not even talking about some complicated things, it's a very simple one, for example, who's whose manager. Quite often it's impossible to get information about the chain of authority from the database of a Russian company. It needs to be created separately, this requires additional effort and time. It makes my work more complicated.



In any course on data analysis, especially in HR analytics, there is a stage of data preparation: some variables can be used as they are, some can be multiplied by ten and divided by two, etc. in order to bring them to some kind of single format. Almost all of these courses say that data preparation is important to learn first, because it is 80% of the time of any analyst. Among all the work you do, 80% is data processing so that it looks correct and is convenient for analysis. In the case of HR analytics, it is more like 95% of the time. It's the pain I have. Probably, I would be a little happier if I had to do this at least 80% of the time. I would happily go with 85%, too.

The second problem is when we talk about analytics, we are talking about quite complicated things. In general, the world is moving towards simplification. Every day more and more information becomes available for non-experts. So many people do an incredible job for it to happen. Right now there is the wave of new pop science literature is rolling through — it comes in numbers, it is high-quality, and it just solves the problem of speaking simple on new themes. Unfortunately, in our field this is not always possible. There is such a term — irreducible complexity. The real world is complex and we have to describe it at the same level, it is impossible to describe complex objects with very simple laws because you will lose information. We have to apply complex methods; thus, we obtain complex results. And to explain them, as a rule, is also only difficult. There are cases where this becomes an obstacle.

— As you said, you are engaged in all projects with your products. Surely there were interesting, memorable or instructive cases. Can you share anything?

— I have quite an exemplary case about the culture of data management. In one company, the talent promotion system is designed in such a way that employees with potential are divided into three segments. There are Leaders — people who are candidates to executive positions. There is a level of middle management — the heads of territorial divisions. And there is a third segment — key employees. The criterion for getting into this last segment is high performance based on current scoring (most of the employees have KPIs). If you perform KPIs of 90% or higher, you automatically fall into this group. And it turned out that in this group is 80% of the personnel of the company. In other words, their separated group of talents is the majority of people working in the company. On the one hand, we are very pleased to know that most of the employees are so good that they are all talents. But if you build a model of this process, then the selection by efficiency is comparable to tossing a coin, which always falls on the same side, i.e. in 100% of cases, it says that a person will be on the list of highly effective people. In this case, there will be 20% errors, which is a perfectly acceptable situation. When everyone is the same, you cannot make any distinction, like there is no good or bad anymore. This implies that the data was collected and collected incorrectly. Either the goals were too easy, or they were set incorrectly, or the goals did not depend on employees (for example, they were tied to the capitalization of the company), or maybe people were incorrectly assessed: managers gave everyone high marks. There may be many reasons, but it is what we call a culture of working with data. To build a procedure for recording and storing inaccurate data that does not reflect the real picture is about the same as not having a database at all, it's useless.

— How new ideas and products are born? Is there any time for thinking, catching thoughts? At the same time, how can you keep track of an industry that is so dynamic, rapidly changing?

— I do not have any special practice to slow down and catch my thougts. It seems to me that work in consulting generally does not contribute to a high planning discipline: client requests, often quite urgent, tend to burst into the stream suddenly and unpredictably. Usually I get up at the same time, this is the best I could do with myself in terms of discipline, and plan things for the day.

Speaking about development, I believe there are 3 points to name. First, I work with technological projects, where the main work is not on the side of people, but on the side of technology. This provides a significant bonus when you do it long enough. When the technological methods that you use are very developed on their own, you have invested a lot of time into them, they allow you to do your job several times faster and free up your time. For example, in the very first DEEP project that we did in 2016, the data processing took 2.5 weeks. Now it takes me one day. In one day, a raw data turns into a finished presentation for the client. This acceleration of performance is achieved due to the fact that most of the work is not done by you, but by the machine you created. When you set up the machine, it allows you to free up a lot of time.

The second point, very important, is to work a lot. It's the same as with data. In order to create new solutions and products based on data, you need to constantly collect the data. You cannot do this in isolation from the materials you work with. Each project is a separate story, it has its own characteristics, problems, challenges. Solving them, you add to the technology assets and it becomes more universal.

The third moment, the most useful, is communication with colleagues who are experts. Not necessarily with those with whom you work in the same company, but in general with those who solve problems which are similar in theme or by solving method as yours. It's essential to communicate your experience. We now have a large team of analysts, and this, it seems to me, has improved the quality of our solutions, because we can discuss, share problems, look at the data from several points. Being constantly in professional contact, constantly exchanging information is extremely important.

— Are you developing anything interesting new right now?

— We are always developing something. In psychometric solutions we are now making a questionnaire on emotional intelligence, and a diagnostic questionnaire based on the theory of spiral dynamics to determine the individual type of culture. While creating questions is a psychometrics domain, processing of answers is more of an analytics domain. We are also constantly improving and developing Echo — an assessment based on video interview record.

— You have said that you are teaching at Higher School of Economics. What courses do you have?

I have two courses. One is a personnel assessment in the master program, where we discuss and work out classic assessment tools: how to conduct an interview, an assessment center, and how to give feedback. The second course is for bachelor program — data analysis in HR: we learn to analyze, program, study mathematics, data analysis methods commonly used in HR.

Business is done by people who measure, evaluate and control.

— And what is life outside of work?

— I cannot say I divide the work and life to be honest. Yeah, it's quite intertwined.

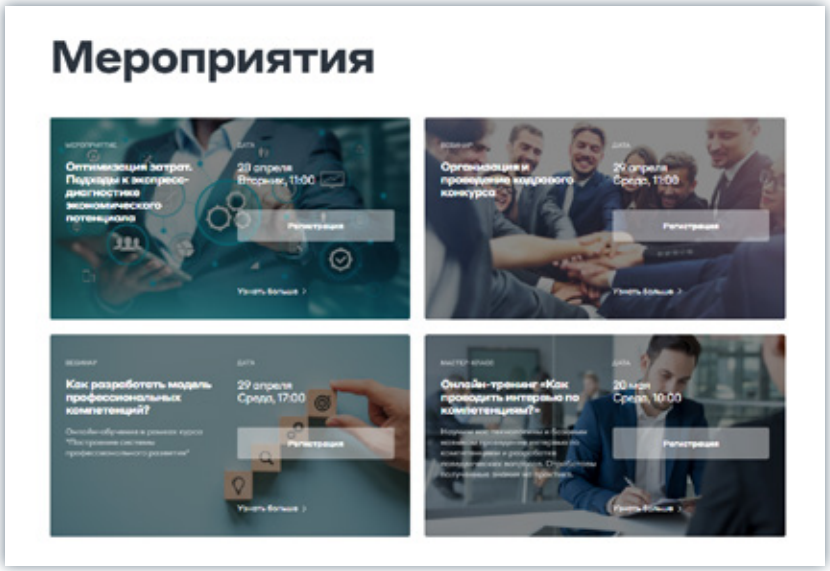
I'm quite a movie fan, I like old cinema. The period of New Hollywood is my great love: Kubrick, Scorsese, Coppola, etc. Recently I watched several Hitchcock films, they are marvelous.

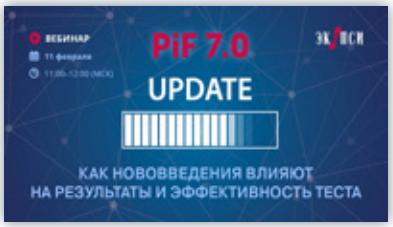
But I'd say the main passion is music. I myself play a little bass, and when I was a student, I played in a group. When consulting came to my life almost no time to practice left. To play, you need a lot of time, but you can listen while working so I do that a lot. I really love jazz. Soon, Kamasi Washington is coming to Russia again. He is perhaps the greatest jazzman out there right now. I hope that due to the current situation with the pandemic, his concert will not be canceled.

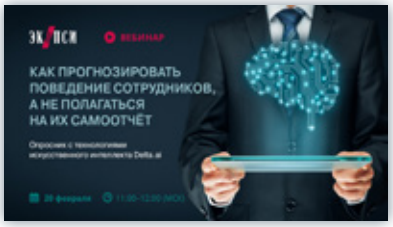
— And the traditional final question. Continue the phrase "Business is done by people ..."

— Business is done by people who measure, evaluate and control.

Useful events







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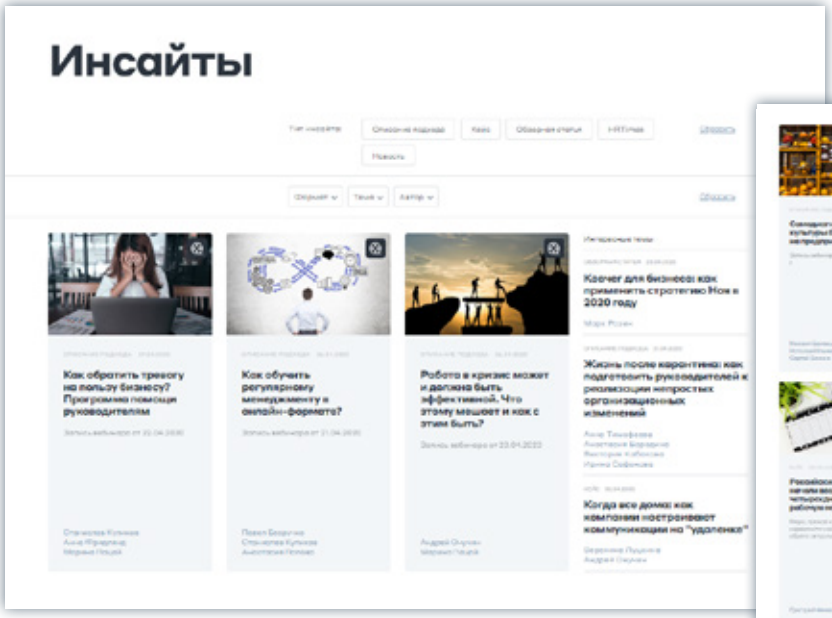

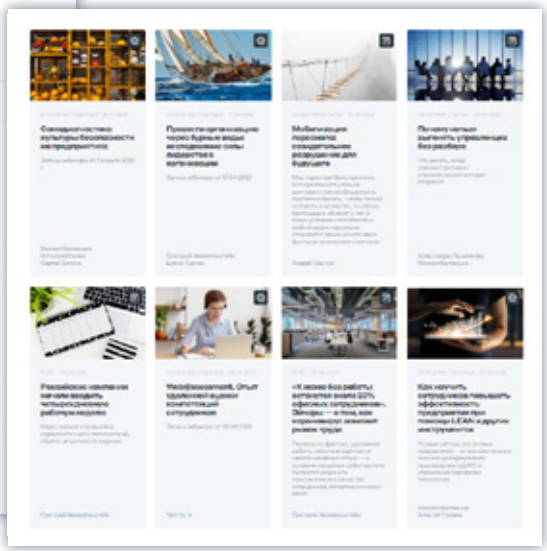

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