

# ВЫЗОВЫ И ВОЗМОЖНОСТИ СОЦИАЛЬНЫХ ИССЛЕДОВАНИЙ В РОССИИ

## Аннотация

Исследования в области социальных наук преимущественно выполняются европейскими и американскими исследователями и базируются на проблемах западного общества. Растущее количество стран с развивающейся экономикой, а именно Китая, Индии, России, Латинской Америки и Африки, вызвал интерес ученых к вопросам социального развития в этих странах. В предлагаемой статье изучаются исследования в России в 2014 и 2015 годах. В частности, проблемы и возможности, основанные на временном измерении исследований в области социальных наук. Основная цель этой статьи - изучить, как темпоральность влияет на процесс исследования. Время занимает центральное место в исследованиях, однако применение временного аспекта в исследовательском процессе не рассматривалось в менеджменте и международном бизнесе (ИБ). В работе обсуждаются две проблемы, связанные с прошлым и настоящим (фактическое время сбора данных): во-первых, неспособность человека завоевать доверие окружающих несмотря на то, что он является инсайдером; и, во-вторых, проведение полевых работ во время санкций. Будущий аспект временности предоставил ряд возможностей в исследовательском пространстве. Целью работы является поощрение социологов к участию в исследовательских возможностях в России.

**Ключевые слова:** социология предпринимательства, Россия, развивающиеся общества, социальные процессы.

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Y. V. Kachan

## HR ANALYTICS AS PERSPECTIVE BUSINESS TOOL

### Abstract

In the area of human resources, decision-making is changing. Guided by instinct and intuition, modern personnel specialists use data and algorithms to develop business solutions. According to recent studies, 35 percent of companies surveyed said they were actively developing data analysis capabilities for HR. Many organizations use metrics in the human resources department to influence how they hire, retain, and pay employees. This is beneficial because it allows companies to collect and analyze data that can both increase revenues through better understanding and more accurate targeting of customers, and reduce costs by improving business processes.

At a time when the old methods of personnel management are no longer enough to keep up with competition and new technologies, this industry is at a crossroads. Although the use of analytics is far from new, over the past two years, more and more organizations have realized that data can improve both HR functions and business processes in general.

HR plays an important role in business outcomes, and the use of data provides a key advantage in terms of decision making. 77 percent of managers currently rate people analytics as a key priority. Companies form teams of analysts, quickly replace obsolete systems, and combine individual analytic groups in HR into one strategic function.

Despite the fact that analytics does not solve all the problems with the staff, it can give an idea of the business functions and help trained HR specialists to develop plans that optimize investment in talents.

In this article the main KPIs are described in details for implementing in any kind of commercial companies, the tools that are need for it and the necessary skills that are required and expected from HR managers to better implementing new technologies in the rapidly changing world.

**Keywords:** hr, analytics, analytics instrumento, instrumento hr, hr management, python, business analytics.

## 1. Introduction

In a competitive market scenario, it is imperative that the employee's potential be used to best for organizational success. In such an environment, human resources remain one of the main distinguishing factors for the organization that can be used for competitive growth in the procedure for creating the necessary organizational value. Optimal use the human capital held by the

organization is an ongoing process; consistent effort towards will ensure that the organization's human resources remain an asset and not responsible.

Human resources management should be subject to the needs of the organization as a whole; this can be understood as a field of study that focused on the study of these methods and approaches that can be implemented in employee context to achieve organizational goal. But, for personnel management, to be appropriately efficient and to help create changes and implementations that produce positive results or have beneficial effects should focus on gaining a deeper understanding of behavioral characteristics and characteristics their employees. Based on HR, HRM is oriented to the definition of tools and measures and is based on the basic principle that employers and employees can work together and realize common goals in the operational space of hierarchies and structured systems. In order to realizing these goals, HRM includes many established strategies and practices that have proved their effectiveness as well as creating new ones, especially for organizational context.

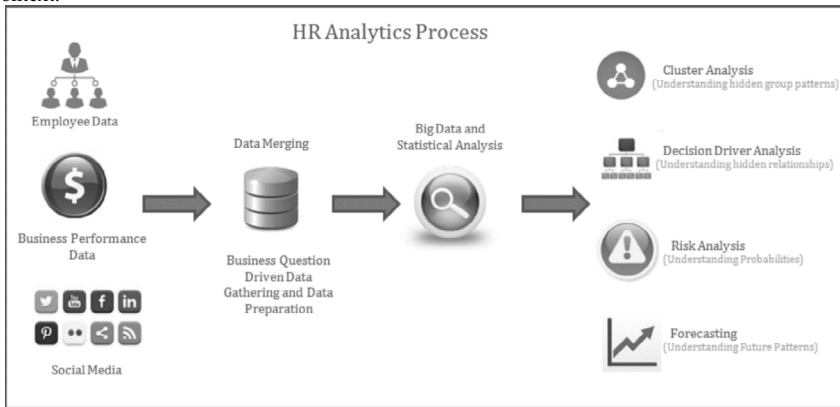


Figure 1. HR Analytics process

Management tasks and decision-making on critical issues are an integral part of the work, which is included in the sphere of personnel management of the organization. Decision making has been identified as one of the most important organizational processes, including employee behavior, productivity, motivation, and the level of stress placed on employees. It is imperative that the nature of the applied human resources management practices be consistent and synchronized with high expectations and guiding principles of employee behavior and competitive goals. Taking into account the desired role of the employee, that is, the necessary skills, aspects of knowledge and skills, various competitive business strategies can be closely linked to organizational conditions in order to see development in critical areas such as decision making.

Human resource analytics is a relatively new intervention in the broader field of HRM, and it refers to the use of statistical tools, measures and procedures that can be used to apply and mask the most effective solutions, such as HRM strategies and practices. It is often called people analytics, talent analysis, or labor analysis. HR analytics can be understood as more reliable, because it provides statistically reliable data and evidence that can be used in the process of creating new strategies when implementing existing HR strategies and other measures. Opportunities for HRM offered by analytics were realized by employers and organizations, but there remains huge potential for growth in this area and studying the relevance of analytics in various categories that fall under HRM.

This study is aimed at studying the existing literature on the relationship between human resource analytics and the role that it can play in improving the existing range of managerial and personnel tasks. Studying this literature will help to understand how relevant people's analytics is in

the field of decision-making, and how organizations can use it to get a good return on the investments made in the process. This will include a critical analysis of the steps taken to integrate HR analytics into the organizational structure; the processes used, as well as the statistical tools used to store data, and the approach taken when applying analytics to make difficult decisions. Consequently, HR analytics can be understood as opening up significant prospects and having great potential to improve the decision-making process in the field of personnel management and management, which will be considered in the course of this study.

## **2. Goals and objectives**

The aim of this study is to analyze existing literature in order to understand the relationship between human resources and analytics and to understand the role they play in improving the existing range of research related to management and personnel. This study is dedicated to achieving the following goals:

1. To study and get an idea about the future of HR analytics, if it is integrated into the company, to help managers in predictive decision-making based on statistical data and relevant analytical data and literature on HR.

2. To study the existing literature on the integration of HR analytics in organizations, to qualitatively evaluate existing studies and discuss research gaps (if any).

3. To study IT infrastructure and technological interventions, including those that affect the way data is stored and stored in terms of the effective implementation of HR analytics and the need for them to be effective in terms of data storage in order to be relevant for HR analysts

## **3. The concept of HR analytics**

People are the organization's unsurpassed assets and an effective way to gain a competitive advantage in the current unstable market environment, and it is very difficult for organizations to manage employees with diverse competencies and display their results in accordance with the organization's strategy.

This requires the creation, analysis and storage of a huge amount of data to support decision making. Human resources management requires tools that allow managers to get an idea of the patterns arising from various HR functions, which will help organizations filter out star performers from a pool of a huge database of employees. The solution is proposed by introducing analytics to manage employee data from a scientific and rational point of view and related to organizational results. HR Analytics includes the use of statistical methods, research design, and algorithms to evaluate employee data and translate results into evocative reports. HR Analytics uses statistical models to get an idea of employee data, and the patterns identified in the data make it possible to predict employee behavior patterns such as layoffs, training costs, and employee contributions. This is also called predictive analysis.

A typical HR Analytics system collects employee data from HRIS (HR Management Information System), business performance records, mobile applications and social networks are combined into a data warehouse, uses big data, statistical analysis and data analysis methods to provide an understanding of hidden data templates, relationships, probabilities and forecasting. The data storage system is engaged in the collection, analysis, transformation and storage of data in various databases. HR analytics is a relatively new intervention in the broader field of human resource management. It is also often referred to as people analytics, talent analysis, or workforce analysis. HR analytics can be understood as more reliable, because it provides statistically reliable data and evidence that can be used in the process of creating new strategies and in implementing existing HR strategies and other measures.

The opportunities for HRM offered by analytics have been realized by employers and organizations, but there remains huge potential for growth in this area and to study the relevance of analytics in various categories that fall under human resource management. Effective HR analytics will assist HR managers in fulfilling HR functions, such as forecasting the supply and demand of people, identifying suitable employment tests to match candidate profiles, assessing training needs for employees, implementing salaries, and maintaining effective employee information for adoption decisions. on remuneration and management of employee discipline. In general, this helps HR

managers make decisions based on data on recruitment, retention, training, remuneration, career planning and organizational effectiveness and efficiency.

### 3.1. Types of HR analytics

Analytics can be classified as descriptive, predictive and optimization analytics. Descriptive analytics is the first level of analysis that includes an understanding of historical data, behavior and results; it describes only the relationship. It includes the use of data visualization, special reports, detailing, dashboards / scorecards, SQL queries. The turnover ratio, rental price and absence factors can be found using descriptive analysis.

The second level of analysis - Predictive Analytics - involves predicting future behavior and results based on past data. It includes the use of Data Mining (correlation between data), decision trees, pattern recognition, forecasting, root cause analysis and predictive modeling (what will happen next). Predictive modeling will help HR managers in predicting layoffs and the likelihood of employee success at work based on the recruitment / selection methods used. The third level of analysis is Optimization Analytics, which includes not only achieving better results through the use of limited resources. It includes the use of linear programming, modeling, the creation of mathematical modeling and implementation, which are used to find the best alternative investment in learning to achieve organizational effectiveness.

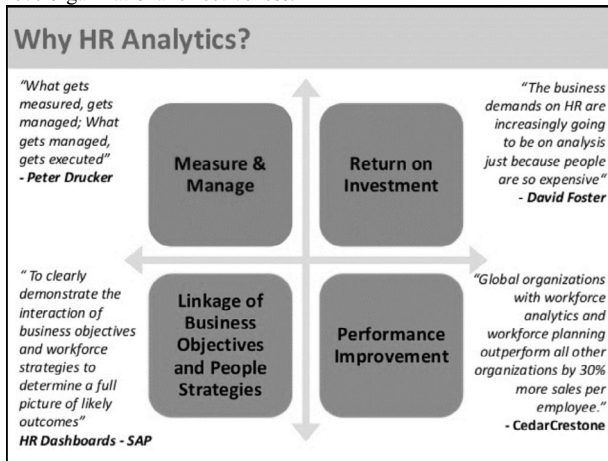


Figure 2. Pros of using HR Analytics

### 3.2. Tools for HR analytics

SAP, IBM, Oracle, Microsoft are business intelligence providers. BI software has HR modules with BI and data analysis capabilities. R-Studio is a software tool for analyzing and visualizing data that can be used for very large data sets. Python is the preferred programming language for all data researchers for statistical analysis and data visualization. Microsoft Excel has traditionally been an excellent data analysis tool for collecting, analyzing and transforming data using formulas, pivot tables, scripting and graphing tools. Microsoft Power Business Intelligence software is capable of extracting data from various sources and makes it easier for us to analyze, aggregate and visualize data.

Mondore, Douthitt and Carson in the research on HR analytics, presented a Six-Step Roadmap on how to enable HR analytics to ensure that it matches the strategic staff and the desired organizational results. The steps included and described in the study include determining the most significant results; creating a cross-functional data plan; implementation of adequate measures to evaluate critical results; preparation and implementation of the plan; measuring, changing it after

implementation and making other changes. The study also examined how HR analytics can be used to identify and consolidate talents for an enterprise and, therefore, to draw up a succession plan and talents for an organization.

The proposed HR analytics plan outlined in the study is based on implementation in specific organizations; therefore, this can be understood as providing detailed insight through minor suggestions, such as making HR analytics available to people in senior positions in the organization. A study by Rasmussen and examines the nature of the statement that, as they say, HR analytics makes an additional contribution to managerial and personnel decisions by providing statistically validated and verified data. The study recommends that, in order to prevent human resources analytics from becoming another “fashionable passion”, it should work towards changing the traditional approach to human resources and related efforts in order to be effective with point of view to ensure specific and substantial results. The study recommended that instead of using the traditional “personnel-oriented” approach from the inside, a transition to the “outside-inside” approach, which is implemented with an emphasis on specific actions, was necessary. This proposal for a modified approach can be implemented through the use of appropriate technological interventions.

The study by Ulrich and Rasmussen presents two case studies on the implementation of HR analytics in business analytics and examines the positive consequences that it has in terms of optimizing productivity and managing the development of organizational talents. The study positions HR analytics as a reasonable tool to increase the real impact of HR on achieving business goals. Levenson in his study emphasizes the importance of analytics for human resource management practices, in which he provides a comparative analysis of costs and benefits, as well as impact analysis and return on investment. Based on his study, Levenson postulates that the use of analytics and metrics provides great potential for improving the quality of decision-making in the field of human capital and personnel issues in firms. Research shows that analytics in HR function was observed as a specialist skill saved from the analyst. Levenson’s study indicates that metrics are important for raising the level of insightful, analytic decision-making in HR.

Moreover, the study claims that metrics and analytics help in much-needed in-depth analysis, in which he discusses models such as labor markets and organizational design, which all have diagnostic elements and apply logical exercises. Thus, the study shows that the time, energy and resources of a human resources specialist should be aimed at applying good analytics in general, which improves the diagnosis of HR problems and provides a better orientation for developing business models and practical proposals.

In addition, another important research proposal included the development of a COE for HR analysis and the provision of an HR analytic framework for the full range of organizational tasks. A study by Rasmussen and Ulrich examines the nature of the statement that, as they say, HR analytics makes an additional contribution to managerial and personnel decisions by providing statistically validated and verified data. The study recommends that, in order to prevent the transformation of HR analytics into another “management quirk”, it should work towards changing the traditional approach adopted by HR and its associated efforts in order to ensure its effectiveness in relation to concrete and significant results.

The study recommends that instead of using the traditional “staff-oriented” approach from the inside, a transition to the “outside-inside” approach, which is implemented with an emphasis on specific actions, was necessary. This proposal for a modified approach can be implemented using appropriate technological interventions. The Ulrich and Rasmussen study presents two case studies on the implementation of HR analytics in business analytics and examines the positive effects it has on optimizing productivity and managing organizational talent development. In the study, HR analytics is considered as a reasonable tool to increase the real impact of HR on achieving business goals. It is also important to consider how to use HR analytics in accordance with HR strategies and desired organizational results, as demonstrated by Mondore, Douthitt and Carson in their HR analytics study, which contains a six-step roadmap on how to enable HR analytics to ensure that it matches HR strategies and desired organizational results. The steps described in the study include determining the most significant results; creating a cross-functional data plan; implementation of

adequate measures to evaluate critical results; preparation and implementation of the plan; measuring, changing it after implementation and making other changes. The study also examined how HR analytics can be used to identify and provide talent for an enterprise, and therefore to plan succession and talent planning for an organization. The proposed HR analytics plan outlined in the study is based on implementation in certain organizations, therefore it can be understood as providing detailed analysis with the help of insignificant proposals, such as providing HR analytics to accessible persons holding senior positions in the organization.

### **3.3. Predictive analytics in decision making**

Predictive analytics is used to predict unknown events using statistical data analysis, modeling, machine learning, data mining and artificial intelligence (AI) to analyze historical and current data to predict future data. Predictive analysis in the field of HR is a rapidly growing and demanded area. Predictive analytics HR is used by HR managers in organizations to predict human behavior and optimize their work, as well as to ensure greater return on investment for organizations through decision-making based on predictive analysis tools. The relevant literature will be reviewed in this section to understand the predictive HR analytics process. A study by Rich, Lepine, and Crawford suggested that employee engagement is a more significant marker that affects employee performance compared to other factors that reflect relatively smaller aspects of an employee's personality. Their study was based on an assessment of 245 firefighters with their supervisors to draw desired conclusions about the interaction. According to the study, interaction mediates the relationship between critical parameters, such as the effectiveness of tasks and organizational behavior of employees. Other parameters included by the intermediaries include involvement, satisfaction with the nature of work, the employee's innate dedication to work, which has been found to have a significantly lesser impact than the involvement parameter. A study by Puhakainen and Siponen assessed the need for employee training in adhering to the security policies of an organization's information systems. According to the study, establishing the importance of the need for such training is in the interest of the organization. The study proposed to implement two models as training programs on IS security policies. The main program included studies as part of a research-based action plan. The research-based action plan was based on theoretical materials and examined their practical feasibility to raise awareness of IP security policies.

A study by Fitz-enz and Mattox comprehensively examined the role of predictive analytics in a study that examined the three levels into which analytics are divided, namely, predictive, descriptive, and prescriptive analysis and the various methods that fall under them. The study examined the full range of steps involved in the process, starting with creating an analytical value chain; to the creation of analytical models, various processes involved in turning data into information; along with some examples of predictive statistics and predictive analytics in action. The study also explicitly cites examples from analytics that demonstrate the use of predictive modeling. This includes creating models that demonstrate that how raw data can be used to gain insight and, for example, to draw conclusions, that employer interviews with employers can be an important measure used to understand why workers choose care, and therefore help the organization retain talent. Laszlo Bock, senior vice president of human resources at Google, writes in his book, "Rules of Work," claims that Google uses statistics in people management, interview questions are fully automated, ideally matched based on the profile of candidates to find the most suitable candidates. Google also estimates the likelihood of employees being fired from the company using a predictive staff analysis that says employees who have not been promoted for the first four years can leave the company. Klumper, Rosen & Mossholder discovered the ability to predict employee productivity and employee behavior based on IQ, personality tests, structured interviews, and there is a correlation between these tests and the candidate profile on Facebook, which can be used as an additional employee selection tool after reviewing legal and ethical issues. Best Buy uses HR analytics to predict store performance based on employee engagement practices for each quarter, predicting that a 0.1% increase in employee engagement has led to an increase in store revenue of up to \$ 100,000. In 2011, Hewlett-Packard (HP) applied human resources analytics to predict employee turnover, which they called Flight Risk Assessment. They found that higher salaries, promotions, and performance ratings

were negatively correlated, and those who received promotions but did not receive promotions were more likely to quit their jobs. HP has created a dashboard for all of its HR managers with important matrices for all employee information.

Companies can save millions of dollars by using predictive staff analysis, predicting employee behavior and their contribution to organizational performance. Ballinger, Cross, and Holtom in their study examined the effects of network structure as a predictor of voluntary trafficking. The study focused on the social relations of the employee as a source that affects the level of labor capital in the company. According to the study, the reputation of the network, which provides access to people with good connections, is an important factor in determining staff turnover in the organization. Ballinger, Cross, and Holt note that brokerage is a deterrent in which it wins in terms of progress, generation of ideas, and productivity. The main conclusion about staff turnover that can be drawn from the study is that employees with a more developed social network have more brokerage and reputation resources and are more likely to leave firms. A study by Mishra, Lama, and Pal examined the role of the field of predictive analytics in HR analytics. This helps organizations reduce implementation costs through HR interventions, as well as optimizing business performance and seeing a higher level of employee engagement. The study helps explain the link between factors such as low retention of talent and high levels of exhaustion. According to the study, HR predictive analytics is “a fast-paced and growing technology that can potentially achieve 100 % accuracy in HR decision making.

Reddy and Lakshmikerti in their study found that HR analytics is an important tool that can help to absorb the collected data to describe, analyze, predict and optimize the potential of employees of the organization. The study also narrowed down several factors, such as institutional mechanisms, competitive mechanisms, configuration, and organizational architecture, which play an important role in conducting HR analytics. In 22 interviews conducted in 16 companies, Jasmite Kaur and Alexis A. Fink found that companies use HR analytics to build predictive models for hiring, retaining, firing and planning employee benefits based on employee demographics and reduction models. Companies use HR analytics to engage employees through satisfaction surveys, build staffing plans based on data collected from vacancies in the human resources department, talent movements (translations, promotions) and labor market data, and employee reviews about good or worse management practices are going to allow managers to understand their styles and needs for improvement. Measuring the effectiveness of training programs is also an important HR analytics application.

#### **4. HR analytics and decision-making model**

After a review of relevant existing literature on HR analytics and predictive decision-making, the following model was developed that takes into account the importance of effective decision-making for the success of the organization. The proposed model is based on the literature reviewed previously. The outlined model, Figure 3, is based on studies conducted by Ballinger, Cross and, whose study shows how the data obtained on the network structure of employees can serve as a predictor of staff turnover. Similarly, the proposed model examines how data obtained using various parameters can affect employee productivity, as described in a study by Rich, and can be evaluated using analytical tools. In accordance with the literature reviewed earlier, the study of Pukhakainen and Siponen assessed the need for training employees in security policies of the organization's information systems to ensure their compliance with the prescribed policies.

In the context of this study, the necessary training-related interventions that need to be taken in this regard can be understood from the collected data on existing levels of training and awareness among employees. Once such information has been obtained, it can be analyzed using analytical tools to draw conclusions about the predictive decisions that need to be made regarding training requirements and staff regulations. The model is a visual representation of how analytical interventions can be used for predictive decision-making on various parameters that are critical to organizational activity.

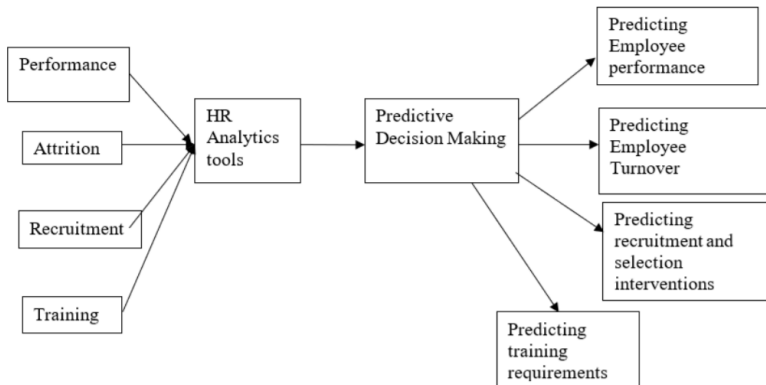


Figure 3. HR analytics and decision-making model

## 5. Conclusion

This study was aimed at studying the existing literature in order to understand the relationship between human resources and analytics and to understand the role that it plays in improving the existing range of studies related to management and personnel. The main focus of the study was the study of the future of HR analytics, if it is integrated into the company to help managers make predictive decisions based on statistical data and relevant analytical data and literature on HR. In addition, the focus was on the study of IT infrastructure and technological interventions, including those that affect the way data is stored and stored in terms of the effective implementation of HR analytics and the need for them to ensure efficiency in terms of data storage. to be relevant to HR analytics. An important conclusion drawn from a literature review on the integration of HR analytics in the field of human resources management shows that, although there are proposals for theoretical models that can be adopted for integration without problems, there is a lack of literature that analyzes the real applicability of these models and analyzes the success (or failure) of these models or strategies when implemented in the context of organizations. A review of the literature on predictive behavior indicates that field data analytics can help identify specific parameters that can help both HRM and HRD in the organization. Predictive modeling, similar to the model outlined in this study, can be used to ensure that raw data helps to draw important conclusions and genuine ideas that help the organization grow. Nevertheless, existing literary resources can be further expanded in terms of studying case studies of prognostic models to accurately assess the relevance and feasibility of models created for specific industries. This is important because predictive decision-making and modeling cannot be uniformly used across types of industries and enterprises, as they will vary depending on various parameters, such as the type of enterprise, the industry in which it operates, the number of employees and the amount of resources, which he can spend on HR analytics.



## КАДРОВАЯ АНАЛИТИКА КАК ПЕРСПЕКТИВНЫЙ БИЗНЕС-ИНСТРУМЕНТ

### Аннотация

В области HR процесс принятия решений меняется. Руководствуясь инстинктом и интуицией, современные специалисты по персоналу используют данные и алгоритмы для разработки бизнес-решений. Согласно последним исследованиям, 35 процентов опрошенных компаний заявили, что они активно развивают возможности анализа данных для HR. Многие организации используют показатели в отделе кадров, чтобы влиять на то, как они нанимают, удерживают и платят сотрудникам. Это выгодно, поскольку позволяет компаниям собирать и анализировать данные, которые могут как увеличить доходы за счет лучшего понимания и более точного таргетирования клиентов, так и снизить затраты за счет улучшения бизнес-процессов.

В то время, когда старых методов управления персоналом уже недостаточно для того, чтобы идти в ногу с конкуренцией и новыми технологиями, эта отрасль находится на распутье. Хотя использование аналитики далеко не ново, за последние два года все больше и больше организаций осознали, что данные могут улучшить как функции управления персоналом, так и бизнес-процессы в целом.

HR играет важную роль в результатах бизнеса, а использование данных обеспечивает ключевое преимущество с точки зрения принятия решений. 77 процентов менеджеров в настоящее время считают людей аналитикой ключевым приоритетом. Компании формируют команды аналитиков, быстро заменяют устаревшие системы и объединяют отдельные аналитические группы в HR в одну стратегическую функцию.

Несмотря на то, что аналитика не решает всех проблем с персоналом, она может дать представление о бизнес-функциях и помочь подготовленным специалистам по кадрам разработать планы, оптимизирующие инвестиции в таланты.

В этой статье подробно описаны основные KPI для реализации в любых коммерческих компаниях, инструменты, которые необходимы для этого, и необходимые навыки, которые требуются и ожидаются от менеджеров по персоналу для лучшего внедрения новых технологий в быстро меняющемся мире.

**Ключевые слова:** персоналом, аналитика, аналитика персонала, инструменты персонала, управление персоналом, питон, бизнес-аналитики.

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A. Kakouris, S. Polbitsyn

## EDUCATION AS A PART OF ENTREPRENEURIAL ECOSYSTEM

### Abstract

Entrepreneurial education programs are a variety of economics and management programs. In practice, we are convinced that a new approach to program development is needed, based on tight connection with entrepreneurial ecosystem. We believe that identifying the most effective approach to the development of educational programs should consider education as a part of regional entrepreneurial ecosystem. Our proposed approach to determine ways to reorganize educational programs based on the innovation theory allows us to consider the strategy for the further development of entrepreneurship education to a greater extent and increase the effectiveness of programs. In conclusion, we define the objectives of subsequent research, identifying the most interesting topics for studying the methodology of entrepreneurial education.

**Keywords:** entrepreneurship, entrepreneurial universities, educational programs, entrepreneurial ecosystem, educational methodology.

### Introduction

In the light of discussions on the nature of the economic mechanism of entrepreneurship methodological approaches to the formation of a research and education should be aimed at achieving a balance of interests of participants in the entrepreneurial ecosystem. The key element in this process should be the public sector. The form of state participation should be the creation of state programs for the formation and development of the research and educational sectors of the entrepreneurial