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People Analytics: far beyond the data

People Analytics: muito além dos dados

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Abstract

Introduction: this study aims to develop a review about People Analytics based on the literature in the area available in the Web of Science and Scopus databases. The concept was explored, as well as studies that demonstrate how to use it in organizations, the advantages and challenges of its application and the perception of managers about this application. **Method:** the research was carried out based on articles available in the above-mentioned databases, published from 2005 onwards. **Results:** the results show that special attention should be given to the origin of the analyzed data, as well as a correct analysis of the available material is fundamental in order to generate information and knowledge that represent value for the organizations. **Conclusions:** it is also important to note that the training of Human Resources professionals in the use of data is emphasized in several articles that composed the analysis reported in this study.

Keywords: Data Analysis, People Analytics, Human Resources, Organizational Strategy.

Resumo

Introdução: *este estudo objetiva desenvolver uma revisão sobre o tema People Analytics baseada na literatura da área disponível nas bases de dados Web of Science e Scopus. O conceito foi explorado, assim como estudos que demonstram como utilizá-lo nas organizações, as vantagens e desafios de sua aplicação e a percepção de gestores sobre esta aplicação.* ***Método:*** *a pesquisa foi realizada a partir de artigos disponíveis nas bases de dados acima citadas, publicados a partir do ano de 2005.* ***Resultados:*** *os resultados mostram que especial atenção deve ser dada a origem dos dados analisados, assim como uma análise correta do material disponível é fundamental para que possa gerar informação e conhecimento que representem valor para as organizações.* ***Conclusão:*** *destaca-se ainda que a capacitação dos profissionais de Recursos Humanos para o uso de dados é enfatizada em diversos artigos que compuseram a análise deste estudo.*

Palavras-chave: *Análise de dados, People Analytics, Recursos Humanos, Estratégia organizacional.*

INTRODUCTION

Data, due to the constant development and advancement of the media, are increasingly available and accessible to both the public and organizations. In this way, organizations have based themselves on data to promote human resources actions, making use of its in-depth analysis for recruitment, selection, training, and performance evaluation. However, much remains to be done to allow the data used to be transformed into information and knowledge that is useful for strategic decisions in organizational contexts.

The Human Resources area has turned its attention to People Analytics for planning, monitoring, use and performance based on data that can serve as inputs to generate information and knowledge that can help in decision-making and in the formulation of actions closely linked to business strategy, which has long been the desire of many leaders in this sector in organizations. However, the use of data in Human Resources (HR) functions presents barriers that must be analyzed and removed so that, in fact, this use brings strategic advantages to organizations.

Something that also needs to be considered in the use of data are the ethical and legal issues related to obtaining information about the individual through access to their data. Faced with this context, this article aims to shed light on these challenges, based on the available literature on the subject. To do so, it seeks to answer the following question: "what organizational factors should be considered by organizations that want to use People Analytics (use of analytic techniques to enable managers to make better workforce-related decisions) (Shrivastava, Nagdev, & Rajesh, 2018)?". This work is relevant for academics because it brings an important survey of the literature on the subject; for HR students, because it brings some challenges to which these professionals will be exposed in their professional activities, and to organizational managers, because they will have an important consultation grant to understand the possible uses and challenges presented to those who are motivated to implement data analysis in the HR function.

The work is structured, besides this introduction section, in the theoretical framework in which the concepts and differences between data, information and knowledge are presented, besides bringing the concept of People Analytics. In the sequence, there is the theoretical foundation, followed by the section that discusses the method used to conduct the study. Then, in the results section, the findings of the research are explained, followed by considerations about the results and the references used.

THEORETICAL FRAMEWORK

From reading the available articles on People Analytics, one can see the need to elucidate some important and essential aspects regarding the use of data for people analysis, since there may still be the misinterpretation of some concepts related to the data. It is important to differentiate the concepts of data, information, and knowledge, because throughout this article it will be realized that the use of data is only possible from the transformation of this into information and knowledge that support the decision making according to the strategy of the organization.

Data, information, knowledge

When talking about the use of data in Human Resources, there is a need to be aware that data are different from information and that this differs from knowledge. The data, according to Davenport and Prusak (1998, p. 2-3), refer to a "set of distinct and objective facts, related to events", which "in an organizational context, are usefully described as structured records of transactions" and "say nothing about their own importance or relevance, but are important to organizations, to a large extent, because they are essential raw material for the creation of information". Data is used within the organization from the moment it is contextualized, in order to generate information and knowledge for decision making and strategy development. The data without being contextualized and linked to other information of the organization can be useless, however, it is the basis of the information and knowledge used for decision making. Information, according to Hoffmann (2009), can be understood as the meaning attributed to a piece of data in a specific context, in the specified need and in the domain of the subject, that is, the information represents a set of interpreted data, which involves an analytical process and enables decision making. In view of what the author has said, the information represents an essential support for human activities in any organizational environment. Knowledge, in turn,

> [...] is a fluid mixture of condensed experience, values, contextual information and experienced insight, which provides a framework for the evaluation and incorporation of new experiences and information. It has its origin and is applied in the minds of connoisseurs. In organizations, it is usually embedded not only in documents or repositories, but also in routines, processes, practices and organizational norms (Davenport & Prusak, 1998, p. 6).

The following table provides a definition of data, information and knowledge and their different characteristics:

Data	Information	Knowledge
- Defined; - Sequence of quantifield or quantifiable symbols; - It is necessary a mathematical entity; - Purely syntactic; - Can be fully described through formal, structural representations; - Are quantified or quantifiable; - Can be stored on a computer and processed by it; - Objective, does not depend on its user.	- Informal abstraction (cannot be formalized through logical or mathematical theory); - It's in someone's mind, represeting something meanungful to that person; - It is not possible to process it in a computer for that it is necessary to reduce it to data; - It is the incorporation of data by someone, because guman beings (adults) constantly search for meaning and understanding; - It can be the inner property of a person (it is in their mental sphere) or be received by them (through their symbolic representation as data, that is, in the form of text, figures, recorded sound, animation) - It necessary contains semantics, what is described; - It depends only on a personal interpretation; - The information can be practical or theoretical; - It can be objective (texts, pictures) or subjective (cold, for example).	Inner, personal abstraction from something that has been experienced, by someone; - It cannot be described; - It is in the purely subjective realm of man (who may be aware of his own knowledge, being able to describe it partially and conceptually in terms of information) or animal; - It is not subject to representations, cannot ber inserted into a computer; - Always practical; - Pragmatic (relates to something existing in the "real world" of which one has a direct experience; - Purely subjective, each one has the experience of something in a diferent way.

Table 1. Definition and characteristics of data, information and knowledge.
Source: prepared by the authors, based on Setzer (2015).

According to Setzer (2015), it is necessary to be aware that the data made available to employees must be very clear so that there is no double interpretation of them, and for this, professionals must be prepared to interpret them, i.e., the data must be able to be transformed into clear information appropriate to the context in which they are being linked. When thinking about People Analytics, the condition of the data is of fundamental importance, since the data composes the element of the beginning of a process that must be carefully thought out so that it can generate reliable inputs to help achieve the organizations' strategic objectives. Likewise, the decision about which data to collect is essential, since what should define data collection are the problems for which solutions are sought and not the use of data to justify decisions already made, which in this sense reminds us of the scholar Andrew Lang who, in 1937, stated that he would try not to use statistics in the same way a drunk man uses light poles, for support, but would use this data as one should use these poles, for lighting.

What is People analytics, anyway?

There are several terms in the literature to describe the use of data within the Human Resources functions and the search to link data to company strategy. According to Tursunbayeva, Di Lauro, and Pagliari (2018), terms such as "HR analytics", "Human Capital analytics", "Human Resource analytics", "People analytics", "Talent analytics", "Workforce analytics" and "Employee analytics" are found to describe this practice. In this study the term People Analytics will be used and, in the adaptation to the Portuguese language, Human Resource analysis (or HR analysis).

People analytics is defined by Barends, Rousseau, and Briner (2014) as evidence-based management, with decision-making using explicit criteria based on available evidence from various sources, turning a practical question into an answerable question, systematically searching for, retrieving and incorporating evidence, critically judging it, into the decision-making process, being part of this process the assessment of the outcome of the decision made.

Mondare, Douthitt, and Carson (2011) define People Analytics as the demonstration of the direct impact of people on business results. For Marler and Boudreau (2017), People analytics is a process that involves a more sophisticated analysis of HR-related data, not focusing exclusively on functional data, but on the integration of data from different internal functions and external data to the organization. It involves the use of information technology to collect, manipulate and report on data and supports people-related decisions by linking HR decisions to business results and organizational performance. The authors argue that People analytics has the

potential to create metrics and connect HR processes and decisions to organizational performance, bringing human resource management to a strategic role, including contributing to other business functions and the organization's strategy.

Heuvel and Bondarouk (2017) define People Analytics as a process and not simply as a tool that produces valuable information at the press of a button. For the authors, such a process has the analytical function of systematically identifying and measuring people's motivations for business results, with the aim of making better decisions.

Marler and Boudreau (2017) summarize People analytics as an information technology enabled HR practice that uses statistical analysis of data related to HR processes, human capital, organizational performance and external economic benchmarks to establish business impact and enable data-based decision making. The authors also state that, when introduced into the organization, this practice will always be new, even if it is already commonly used in the marketplace, as it is unique in each organization, and is designed to influence employee attitudes and behaviors and provide managers with information that connects Human Resource Management (HR) processes to employee attitudes and behaviors, and ultimately to organizational results.

METHOD

This study is the result of an exploratory, qualitative research, classified as a literature review, which uses the analysis of the content to examine the selected materials. The sample analyzed here was delimited based on criteria of relevance, adequacy, availability, and access. From the Scopus and Web of Science databases, we searched for articles that had the term "People Analytics" in their topics (title, abstract and keyword), with 2005 as the beginning of the research period. This time limitation was defined by the fact that in 2005, Google began using data analytics in HR activities, more precisely in the selection of people, naming this process as People analytics (West, 2015). This aroused the interest of organizations and academia by the theme and enshrining the term "people analytics" to define the use of analytical techniques such as data mining, predictive analytics and contextual analysis to allow managers to make better decisions related to their workforce (Shrivastava et al., 2018), which is why it was decided to use it in the search field of this research. In the Scopus database, 40 articles were located, the oldest being published in 2012. In the Web of Science database were located 29 articles, being the oldest of the year 2006. After comparing the titles of the articles in both databases, repeated articles were excluded. Then, by reading their abstract, the articles that did not discuss the subject and did not fit the research objectives were excluded. Faced with such activities, the sample of this study is composed of 35 articles that were closely related to the subject researched and that had the potential to help answer the research question of this study.

RESULTS

For Boudreau and Ramstad (2007), a measurement system that allows discovering evidence-based relationships and motivating improved decisions should consist of the following elements: Logic (L), Analysis (A), Measurements (M) and Processes (P), also referenced as LAMP, an acronym formed by the initials of the components. According to the authors, these elements are essential to understand the cause-effect of the relationship between human resources management processes and strategic human resources management linked to business results. Cascio and Boudreau (2010), describe each of these elements and their implications:

- Right logic: rational talent strategy (competitive advantage, talent focal points);
- Correct analysis: valid questions and results (information, drawings, statistics);
- Correct measurements: sufficient data (periodic, reliable and available);
- Correct process: effective knowledge management (values, cultures, influences).

For Marler and Boudreau (2017), three significant changes should occur in organizations for the adoption of People Analytics. First, to implement People Analytics effectively, organizations need employees with the knowledge and skills to collect the right data, perform the right statistical analyses, and communicate the results in a meaningful and accessible way. Second, those working on People Analytics projects need to build a support network throughout the organization's hierarchy. Third, while Information Technology (IT) should be a facilitator of People Analytics, the outcome depends on the quality and accessibility of the data and resources of the human resource management software system.

Rasmussen and Ulrich (2015) emphasize that data should be used as generators of information and solutions to the business problem and not to justify a choice or support an idea. HR analysis should not start with data or a preconceived approach to business problems, but with a business challenge, identifying the real needs of the business, i.e., from an outside to inside analysis. The authors suggest that the search for information for decision-making should question the context, stakeholders and strategies, suggesting some questions to be asked,

such as: "What choices do we need to make?", "What can we discover and test?", "What data can we collect and analyze?", "What actions do we recommend now? It is necessary to structure the practical challenges of the business to prioritize the questions that need to be answered with the help of People analytics. In this way, the business context should allow actionable information, accurate enough and broad enough, to be made available for decision-making. In this way, HR becomes more rigorous and more objectively oriented (Rasmussen & Ulrich, 2015).

Vosburgh (2007) highlights that the literature has listed the need to transform HR into a more consultative and data-driven approach, seeking to develop in its practices the capacity for evidence-based decision-making to influence business strategy and workforce issues.

For Dahlbom, Siikanen, Sajasalo, and Jarvenpää (2020), organizations have a wealth of information on various aspects of their workforce that together can provide information for business-driven decision-making if approached with an open mind and appropriate analysis tools.

Working with People Analytics becomes challenging as it requires integration between Human Resources and Information Technology in the coordination, control and capture of individual and group-level data, as well as the creation and communication of information within and across organizational boundaries. In light of this, Bondarouk et al. (2017) divide the factors affecting the adoption of People Analytics into three areas: technology, organization and people. The authors highlighted as key issues in adoption in human resources analysis, management support, user acceptance, communication and collaboration between units, HR skills and knowledge, leadership and a supportive culture.

Heuvel and Bondarouk (2017), in a research on the future of human resources analysis, and from a sample of 20 HR analysis professionals, from eleven major Dutch organizations, questioned their perspective on the future of the field. The results indicated that in a short period of time, HR analysis will become an established discipline with a proven impact on business results, with a strong influence on operational and strategic aspects, being characterized by integration with data and IT infrastructure, and may be included in a central analysis function, with HR analysis, as a separate function, or a department or team probably no longer existing. This perception is quite likely, since in order to adopt People Analytics and obtain really valid information to generate strategic results, this information must be based on data from all sectors of the organization, that is, integration is required, and an HR function that acts separately is unlikely.

Green (2017) presents 16 best practices for teams that wish to successfully develop People Analytics in organizations:

1) Focus on business, on projects that really matter for business;
2) Have a human resources manager and the support of a senior executive fully involved with the adoption process;
3) Have an inspiring leader;
4) To have a balanced set of skills and abilities, being seven necessary skills: to have good data, to know how to tell stories, to have business acumen, to have business vision, to have strong psychological skills, to know statistics and to have experience in change management. It is important to have teams capable of acting as consultants, adequately define business problems, develop hypotheses, solve problems, and manage projects.
5) Use external HR resources (and of the organization, if necessary).
6) Have a clearly defined strategy and vision: this not only creates an identity for the team, but also communicates the objectives of the function to the business.
7) Get the basics right: your data needs to be reliable, even if it takes time to limit and define it, this must be done as it will be the basis of the whole project;
8) Have a methodology focused on producing actionable insights through three questions developed by Guenole, Ferrar, and Feinzig: (1) Why to accomplish the project? (2) How the project should be accomplished?; (3) What will result from the project?
9) Use stories and visualization to take action, communicate ideas and results efficiently;
10) Understand that People Analytics is a long-term investment;
11) Put the employee at the center, conveying confidence;
12) Data analysis should be part of the organization's DNA;
13) Communicating successes;
14) Learn continually and not be afraid to fail;

15) Keep an eye on the future:

16) Do not forget the "H" in HR.

King (2016) highlights the importance of HR professionals understanding the strategic position of HR and how human capital contributes to organizational success before incorporating HR analysis, always having the explicit definition of the problem to be addressed through the analysis, otherwise it will not add anything. The author suggests that complex People Analytics projects should begin with the formulation of questions, followed by the specification of a logical research project, the organization of the data in a meaningful way and the use of appropriate statistical modeling. The steps for implementing People Analytics are shown in Figure 1.

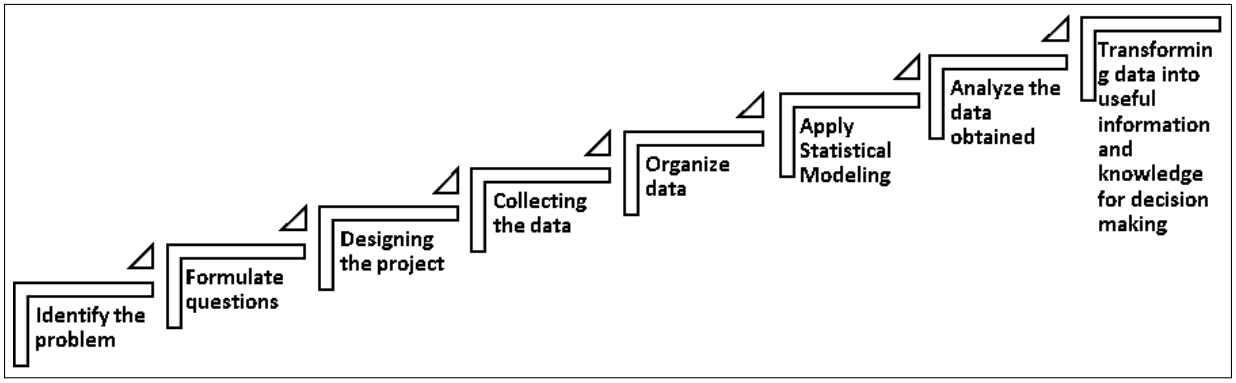

Figure 1. Stages of People Analytics deployment
Source: Prepared by the authors from King (2016)

Through the figure above, it is possible to see that the beginning of the process of using People Analytics is not the obtaining of the data, but the identification of the problem that the interpretation of the data will help to answer, just as such process does not end in the collection of data, i.e., having a data does not guarantee any value for the organization, it is necessary that this data is transformed into information through a correct interpretation of it and is available to generate knowledge that will help in decision-making and formulation of strategies that create value for the organization.

How to use People Analytics?

The literature brings some applications of People Analytics such as the work of King (2016) who used the process allied to a statistical model and written code using R Language to identify individuals with high probability of leaving the company and, from the results, enables the organization to draw strategies for retaining talent.

Sharma and Sharma (2017) analyzed the role of HR analysis in the willingness of employees to improve their performance and found evidence that the use of HR analysis provides objectivity to the performance evaluation system, positively affecting the perceived accuracy and fairness of employees and also the satisfaction of these employees with the evaluation system, which increases the willingness to improve performance. The authors' study emphasizes that factors such as cognitive ability to recall employees' performance behaviors, interpersonal affection, gender, humor, non-equivalence in evaluations, obesity, identification with gender or group, and subjectivity influence performance evaluation, which leaves employees dissatisfied, not perceiving justice in the evaluation.

The study by Sharma and Sharma (2017) states that People Analytics brings greater objectivity to the performance evaluation process, highlighting the need for objective and observable evaluation criteria that can be provided by People Analytics, and that the use of analysis facilitates the collection, documentation and retrieval of various performance data from various sources (both external and internal), which provides managers with better information to observe employee performance in terms of results and behavior.

The work of Tursunbayeva et al. (2018) brings the association of performance evaluation and People Analytics, and highlights that the use of data can optimize recruitment, retention, evaluation, promotion, compensation, turnover and other aspects of human capital management. The work highlights that the use of HR analysis in strategic decision making depends on the organizational culture and leadership that promotes data-driven decision making and data-driven culture. This culture, according to Kiron, Ferguson, and Prentice (2013), concerns the existence of a pattern of behaviors and practices of a group of people who share the belief that understanding and using data and information plays a critical role in the success of their organization.

The study of Wei, Varshney, and Wagman (2015) tested a tool for the transfer of IBM employees, considering various data such as training, experience, skills, ability to develop other functions, location, group, department and business unit to which the employee belongs, functions, specialties, qualifications and professional certifications

and the salary classification of the employee based on the use of information from the curriculum vitae, in addition, the tool was able to calculate the gains involved with its use for the transfer of employees.

Another possibility of People Analytics' performance is in recruitment. The work of Papoutsoglou, Mittas, and Angelis (2017) showed that the skills and competencies of people participating in online professional networks are a new and growing source for data collection and analysis. From the analysis of job ads and profiles of people available online, it is possible to perform electronic recruitment, i.e., you detect the skills and competencies required for a position and from that, you associate the candidate with the existing position.

For Marler and Boudreau (2017), the adoption of People Analytics is more driven by institutional factors, such as regulatory requirements and imitation of leaders, than by evidence of rational economic returns.

The main advantage of the People Analytics application highlighted by King (2016) is that it uses data and metrics to design, evaluate and implement new management policies, replacing the use of experience, intuition and guesswork to guide HR strategy, because important tasks are performed by HR professionals, such as evaluating management techniques and talent development and identifying opportunities to effectively manage human capital, however, emphasizes that it is not a simple task, because human behavior is something complex and cannot be fully predicted and the data helps by bringing more inputs to decision making.

What does it take to apply People Analytics?

Marler and Boudreau (2017) suggest three important requirements or moderators of People analytics' success: analytical skills of HR professionals, management support and participation, and HR information technology. For the authors, the lack of analytical skills may prevent the acceptance of People Analytics in organizations, and there is a concern that, with its adoption, the process will not be controlled by HR professionals, which may lead to misinterpretation of the data and poor analysis, damaging the people and results of the organization. To avoid this, Levenson (2011) highlights that HR professionals must have the necessary analytical skills to perform People Analytics effectively.

About this situation, Boudreau (2010) argues that there should be a collaboration between HR leaders and experts in disciplines such as finance, operations, marketing and engineering, because for HR professionals to have access to the cross-functional data needed to perform their analysis, managers in other areas must be willing to provide access to this data and also be involved in the process.

Another finding about barriers that can hinder the adoption of People Analytics is made by Rasmussen and Ulrich (2015) who noted that there is a tendency to reject data that threatens existing beliefs. When new data suggests that personal beliefs are wrong, people choose their belief system and reject the data. The authors presented some risks involved in conducting People Analytics such as the lack of criteria in analyses that end up not being used to analyze anything, and the excessive valuation by data, exaggerating the quantity of them, when, in fact, they do not measure what is important. The authors conclude that the important thing is to have the right data (including qualitative data or other data that are not readily available); it is necessary to ask the right questions and interpret the results and implications in the right way; and the analyses should not start with the data but start with business challenges.

It is necessary to make an HR from the outside in, thinking about what can be transformed and improved so that the organization is consolidated in the market, or its talents are developed faster, in order to differentiate itself from the competition, that is, an HR that evaluates the external environment and not only fixes itself in the internal environment, in the past. Actions must be in tune with the business challenges faced by organizations, taking advantage of the academic knowledge available, but understanding that business leaders face identified problems that require integrated business solutions, practical solutions to real challenges.

Through a literature review, Rasmussen and Ulrich (2015) highlighted that successful adoption of People Analytics requires management support, employee acceptance and adoption, stakeholder commitment, consistent communication, collaboration and shared vision between IT and HR functions, training of HR professionals in the use of new systems, personal leadership skills and culture, and, not least, an IT-friendly culture, supportive leaders and industry trust.

Minbaeva (2017) argues that the development of People Analytics in organizations requires working on three major foundations: data quality, analysis resources and strategic capacity, in addition to three dimensions to be worked on simultaneously: individual, process and structure levels. In the individual dimension, it highlights the requirement of individuals committed to ensure, for example, impeccable organization of data; the process dimension refers to the need to acquire and develop skilled data analysts, create systems and establish workflows to provide ongoing support for data quality, link the results of analysis projects to existing organizational processes, encourage experimentation and enable follow-up actions through HR business partners. In the structure dimension, there is a need for continuous investments in centralized coordination of data collection and organization, creating a culture of evidence-based decision making and equipping top management with action tools linked to current and future strategic discussions.

In research with HR professionals from companies in different sectors in Finland, Dahlbom et al. (2020) concluded that the most common challenges that prevent HR from advancing in data analysis are the lack of analytical skills and understanding of the business by HR professionals, the quality of data and problems with HR information systems, the difficulty in connecting the points between Big Data and HR, the difficulty in transitioning the HR function (becoming strategic), having a direction towards a more analytical, strongly coordinated, systematized and IT solution-based solution and, in general, a business-oriented posture.

Angrave, Charlwood, Kirkpatrick, Lawrence, and Stuart (2016), when consulting literature on the subject and from discussions with HR professionals, instigate the concern that the analysis of human resources will have negative consequences for the HR profession, for employees and for organizations, even more if this analysis incorporates financial and engineering perspectives on people management, which may even harm the quality of life at work and the well-being of employees, without providing a sustainable competitive advantage for the organizations that adopt it. Other significant issues such as privacy, consent and ethics when storing and analyzing HR data are raised as important by the authors.

To minimize these barriers, Angrave et al. (2016) emphasize that the adoption of human resource analysis should begin with HR professionals understanding the strategic role of human capital for organizations, i.e., how people contribute to the success of organizations. The same authors also emphasize that it is necessary to understand that for a strategy to create, capture, leverage and protect value, the strategy used must be something exclusive to that specific organization and not something generic, because the data analysis must be in deep harmony with the understanding of the data in the context in which they were collected to generate significant insights. The tools and metrics should allow the identification of the segment of talent that contributes to the excellent performance of the business and, thus, identify how human capital affects the performance of the organization.

Angrave et al. (2016) summarize some factors that can hinder the adoption of People Analytics in organizations such as the lack of skills, knowledge and insights to ask the right questions about HR data, the peripheral position of HR in the organizational hierarchy that can influence the acquisition of data, silo mentalities in organizations that prevent the combination of data from other sectors, the inadequate software used that provides answers focused on operational reports, consulting activities focused on product sales and not on solutions focused on customer needs, offering generic solutions, talent management software that do not contemplate current challenges such as engagement, empowerment and environment, in addition to the risk of misinterpretation of results by operational and financial managers with limited understanding of HR.

To ease these barriers, King (2016) emphasizes the need to build better analysis software with longitudinal and multivariate econometric systems, capable of conducting end-to-end analysis, to this end, states that academic knowledge can help bridge the gaps in understanding between HR professionals and data scientists in organizations, as many in the HR profession do not understand data analysis or big data, while analysis teams do not understand HR.

The main advantage of King (2016) data analysis is that it uses data and metrics to design, evaluate and implement new management policies, replacing the use of experience, intuition and guesswork to guide HR strategy. However, the author highlights that this analysis is still focused on descriptive analysis, which gathers data on past events or trends (turnover rate or hiring cost) and ideally evolves into a predictive analysis, rarely used until now by organizations, which evaluates why past trends have occurred and how they can be changed (projects procedures for correction) or whether they will continue without intervention, such assessments begin to inspire questions "what if?".

King (2016) highlights that in addition to the support of top executives, it is necessary to assess the existence and accessibility of reliable data and information, determining whether internal needs meet analytical demands.

Organizational factors	Authors
Logic, analysis, measurements, and correct processes	Boudreau and Ramstad (2007), Cascio and Boudreau (2010); Rasmussen and Ulrich (2015), Minbaeva (2017)
Employees with data handling skills	Angrave et al. (2016), Marler and Boudreau (2017), Bondarouk et al. (2017), Dahlbom et al. (2020)
Support from the entire organization	Marler and Boudreau (2017)
Information Technology	Angrave et al. (2016), Marler and Boudreau (2017), Bondarouk et al.(2017), Dahlbom et al. (2020)
Culture	Kiron et al. (2013), Marler and Boudreau (2017), Bondarouk et al. (2017), Tursunbayeva et al. (2018)
Communication	Marler and Boudreau (2017), Bondarouk et al. (2017)
Data availability	King (2016), Angrave et al. (2016), King (2016)
Data Quality	Minbaeva (2017), Dahlbom et al. (2020)
Strategic capability	Minbaeva (2017)
HR understanding of the business	Dahlbom et al. (2020)
Availability of information	Rasmussen and Ulrich (2015), King (2016), Dahlbom et al. (2020)
Top management support	King (2016)
Leadership	King (2016), Bondarouk et al. (2017), Marler and Boudreau (2017), Tursunbayeva et al. (2018)
Collaboration between areas	Angrave et al. (2016), Bondarouk et al. (2017)

Quadro 1. Organizational factors for using People analytics.
Source: prepared by the authors, based on Setzer (2015).

The use of People analytics allows the organization to advance HR processes such as employee movement (Wei et al., 2015), talent retention and development (King, 2016), performance evaluation and job satisfaction (Sharma & Sharma, 2017) or recruitment (Papoutsoglou et al., 2017) and gain advantages. However, it is necessary to pay attention to the organizational factors that can enhance or inhibit the use of data to bring gains to the organization. The chart above presents some of these factors based on the literature analyzed, indicating which factors deserve attention by the organization that aims to use people analytics.

Ethical issues

There is a euphoria in organizations, media, and marketing companies about the use of individuals' data for the most different purposes. However, through a literature review on the subject, Angrave et al. (2016) noted a marked absence of ethical considerations in relation to the practices of analyzing people, some hidden or that go beyond the limits of organizations, such as monitoring personal social media or e-mail activities, with implications for privacy. In this regard, Dahlbom et al. (2020) highlight that future HR professionals should be aware of issues such as fairness in decision-making and understand the black box of algorithms that, if used without due care and the necessary understanding of the internal functioning of systems, can lead to biased decisions or even violate the legal rights of the people analyzed and managed based on the results. Thus, it is essential the science and authorization of people so that the data that do not belong to the organization is used.

CONSIDERATIONS

People Analytics is not a tool, it's a process. This seems to be the first necessary realization for those who want to obtain the advantages of its implementation. As such, it must be structured in a way that makes its purpose effective in organizations.

Given the objective proposed by this article, which was to shed light on the subject and seek to answer the question "what organizational aspects should be considered by organizations wishing to utilize People Analytics?", and based on the literature in the area, some important considerations are possible. Introducing People Analytics challenges both HR professionals and managers in other areas to integrate to provide and access reliable data from all sectors of the organization. From the challenge of finding a solution and improving practices by analyzing the data available or collected for this purpose, there is the requirement to seek collaboration among all organizational sectors through the use of appropriate technology.

This integration requires adequate communication, collaboration through the development of trust and appreciation of employees, in addition to the great importance of the support of leaders and an organizational culture focused on valuing the use of data for decision making, based on evidence, bringing greater objectivity to business guidance. The use of People Analytics provides and requires continuous learning and a vision focused on the future, to formulate strategies based on generated data that has the potential to support strategic HR projects, optimizing financial resources and time.

The literature presents the need for the right logic, the right analysis, the right measurement, and the right process, that is, the question that generates the data search for its answer must really make sense for the business of the organization, as well as it must arise from outside to inside, forcing the Rh area to go beyond the organizational boundaries.

For the data collection to really make sense and for the analysis of this data to generate reliable and pertinent information, the organization is challenged to know itself, which involves not only one department, but the organization, as well as the context in which it is embedded. Thus, from the right question, answers that contribute to the organizations' business are sought with the help of the data. Asking the necessary question, searching for the right answer, and generating information and knowledge for decision-making seems to be the great contribution and challenge of People Analytics.

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