

**Digital transformation and management of human resources:
perception of workers on the use of artificial intelligence for internal
attendance, in a brazilian bank.**

Renato da Costa Braga

Leandro Pinheiro Cintra

Allan Claudius Queiroz Barbosa

Technological innovation remains a relevant factor of economic growth in the dynamic capitalist context, marked by the advancement of Information and Communication Technologies (ICT), in which organizations articulate dynamic capacities in the pursuit of sustainable competitive advantage, mainly through individual competencies. In this scenario, Industry 4.0 (I4.0) and Digital Transformation (DT), which includes Big Data , Internet of Things (IoT) and Artificial Intelligence (AI), stand out with tools based on complex algorithms, machine learning and deep learning . They can serve as data mining, predictive analytics and interaction with people through Intelligent Virtual Agents (IVA) using natural language and continuous learning, ways to emulate complex human skills. In this way, the DT elements are presented as new technologies that impact the Organization of Work (OW) and intensify the challenges related to the integration of the Human Resource Management (HRM) strategic function, its practices and instruments, with examples of products (as HR analytics, people analytics and Artificial Intelligence , offered by HR Tech startups / spin-offs . Under these perspectives, it is proposed to discuss the use of AI (Cognitive Computing) from the case of a brazilian bank, initially through the perception of its employees, assisted by an IVA that provides information about the products and services of this company, usually assigned to contact center department attendants. As a complement, we sought to observe if the use of this new technology, focused on banking processes, also includes HR processes. The bank currently overcomes 14 million conversations through the IVA that has a capacity for 4500 interactions per hour in multiple channels. Thus, this exploratory study has a qualitative character and was carried out in the field with application of an interview script with employees, anonymous and volunteers, for scientific purposes. They were approached in 22 branches of the Metropolitan Region , in the municipality of Belo Horizonte, Minas Gerais, Brazil, in the period of 2018. Public data from the bank's

web portal were also used as a secondary source. As main results, the attendance of employees through a IVA is real in these agencies ; the interviewees perceive the effectiveness of the IVA responses in 85% of the requests , but with limits on questions with greater complexity ; also, that if this new technology provides information necessary for labor activities , it is thus to enable them in some way; and, that attendants in the contact center have been withdrawn or transferred ; there were no indications of support for HR processes, such as vacations, salary and payroll , but rather the referral to the responsible department; during the interactions there is evidence that some users treat the machine as another human; the machine learning process counts on the help of anthropologists and psychologists , among others; "Human touch" and more "relationship" are contradictions in organizational discourse. As a proposition, due to the evidence found, qualitative and quantitative surveys are suggested that are comprehensive and profound about the impact of these new technologies on OW, especially in contact center in industry, service and commerce firms. The same is necessary about the subsystems of HRM users of products offered by startups and spin-offs HR Tech, for understanding of dynamics about function and its practices.

Keywords: New Technologies, Digital Transformation, Artificial Intelligence, Work Organization , Human resource Management.

References :

- Angrave, D., Charlwood, A., Kirkpatrick, I., Lawrence, M. & Stuart, M. (2016). HR and analytics: why HR is set to fail the big data challenge. *Human Resource Management Journal*, 26(1),1–11.
- Bondarouk, T. V. & Ruël, H. J. M. (2009). Electronic Human Resource Management: challenges in the digital era. *The International Journal of Human Resource Management*, 20(3), 505–514.
- Buhr, D. (2015). *Social innovation policy for Industry 4.0*. Bonn, Germany: Division for Social and Economic Policies, Friedrich-Ebert-Stiftung.
- Hecklau, F., Galeitzke, M., Flachs, S. & Kohl, H. (2016). Holistic approach for human resource management in Industry 4.0. *Procedia CIRP*, 54, 1-6. Doi: 10.1016/j.procir.2016.05.102.
- Hess, T., Benlian, A., Matt, C., Wiesböck, F. (2016). Options for Formulating a Digital Transformation Strategy. *MIS Quarterly Executive*, 15(2), 123–139.
- Makridakis, S. (2017). *The Forth coming Artificial Intelligence (AI) Revolution: Its Impact on Society and Firms* (article). Neapolis University, Paphos, Cyprus. Recuperada de <http://hdl.handle.net/11728/9254>

Pan, Y. (2016). Heading toward Artificial Intelligence 2.0. *Engineering*, 2(4), 409–413.

Schwab, K. (2016). *The Fourth Industrial Revolution*. New York, USA: Crown Business.

Ulrich, D. (2016). HR at a crossroads. *Asia Pacific Journal of Human Resources*. 54, 148–164.