From e-HRMD to v-HRMD: a Systematic Review of the Literature of Virtual and Augmented Reality in Human Resources Management and Development

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The ongoing development of new information technologies is opening new possibilities and applications for several management areas. Human Resources Management and Development (HRMD) is no exception. Several solutions are being tested and implemented using passive one-way technologies (such as job boards, web-based job ads) or more interactive technologies (e.g. web 2.0, social media, blogs, virtual job previews, among others) (Stone et al., 2015). The impact of new information technologies in several processes of HRMD is being investigated (Piabuo et al, 2017) and, although with different results and conclusions (Marler and Parry, 2016), the notion of e-HRM is gaining ground among scholars and practitioners (Findikli and Rofcanin, 2016).

Despite the growing popularity of the topic there is still no agreement on the efficiency of various digital platforms (Allen, Mahto and Otondo, 2007; Chpaman and Webster, 2003; Parry and Tyson, 2011), with some arguing that the “e” on HRM still has some limitations (Stone et al., 2015). Some of these limitations are related with the nature of the tools used, revealing a lack of interaction potential, including being impersonal, passive, and a one-way communication.

One technological solution that may overcome these limitations is virtual and augmented Reality (VR). This solution offers a computer-simulated environment reflecting real life environments or scenarios (Steuer, 1992). The characteristics of VR allow the user to be at the centre of an immersive and interactive experience, overcoming the potential lack of interaction of other technological solutions.

Although there are several examples of applications of VR to other management disciplines, such as marketing (Bialkova and Bigné, 2017; Bialkova, 2018), there is still no systematic exploration of the potential of VR for HRMD.

This research is a contribution to fill this gap and to explore the supposed interactive potential of VR when applied to HRMD processes. Specifically, and through a systematic review of scientific literature, we look forward to identify the potentialities of VR in HRMD. Also, and since there is no systematic understanding of the "how's" and "why's" of VR impact in HRMD processes, another goal of this research is to map the state of the art regarding the use of technology as an enhancer of HRMD processes, specifically of VR.

We conducted a systematic review of scientific literature on the application of VR in three core areas of HRMD (attraction, development and retention). The search was conducted on scientific databases using specific keywords and expressions related with the core areas and topics associated with virtual reality. Several filters were used to narrow the search and raise the quality and relevance of results. The next step involved an analysis of the results and a selection of the relevant outputs. This process was undertaken by at least two members of the research team in order to reduce or eliminate biased decisions. The final list of outputs comprised 22 articles and papers. A set of categories were used to describe the outputs, namely HRMD process, topic of the study, type of study, methods used, technological resources used, activity sector of the study, participants in the study, and impact of the technology used.

The descriptive analysis reveals that the large majority of published research focus on "Learning & Development" and is mainly empirical with a qualitative approach. About 60% of the research used some kind of equipment or hardware, while only 27% used or tested specific software. A large majority of the research (77%) found a positive impact of the use of VR. Further content analysis and discussion of the results was conducted.

Keywords

Human Resources Management; Human Resources Development; Virtual Reality; Augmented Reality; Systematic Literature Review

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