

# **Application of Virtual Reality and Augmented Reality in the Performance Management Process and Productivity: A Systematic Review**

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The job market has been in continuous development. Both depleting resources due to rapid adaptation and reaching higher effectiveness and reducing costs. This is also reflected in the need for the companies to guarantee support mechanisms capable of enhancing the quality and productivity of their employees in order to facilitate the processes of learning and task development. Thus, the technologies of Virtual Reality and Augmented Reality are slowly finding their way into all areas of business, including in Human Resources (HR) as an important tool to follow the technological progress towards the improvement of productivity (Holm, Danielsson, Syberfeldt, Moore, & Wang, 2017). Such technologies can have a great impact in the development of new skills, revolutionizing the way companies provide their employees with learning experiences which help them to acquire knowledge and skills, better achieving performance goals. Currently, there is not a single organization that can survive without well-trained members/lifelong learning of complex processes. Thus, in comparison to traditional methods, the use of VR and RA has shown benefits in terms of improved safety and performance and, increased productivity (Patle, Manca, Nazir, & Sharma, 2018).

The present study seeks to understand what has been studied and investigated so far in what regards the use of Virtual or Augmented Reality across Human Resources Learning and Development more specifically in Performance Management, using a systematic literature review. The Systematic Review of Literature has a set of specific intervention tools, through the application of its own methods of data collection and analysis (Sampaio & Mancini, 2007), to synthesize information collected in different scientific documents.

The present work used a qualitative approach instead of research with the purpose of analyzing the content of each one of the articles. Thus, the PRISMA model was used

to develop the RSL protocol and the procedures following the defined steps. This research resulted in 660 articles without any exclusion criteria. Before applying the exclusion criteria, all replicated documents were withdrawn, resulting in 484 documents. With the following exclusion criteria: (1) literary format; (2) language; (3) existence of abstract; (4) full access to the document and (5) agreement with the object of study, the sample was reduced to 19 articles. In order to analyze the articles, the following categories were considered: Type of Study, Methodology; Mobilized Resources; Activity Sector; Target Audience and Purpose of the Study.

The results show that most of the studies are empirical and use a quantitative methodology, with a greater number of publications in the year 2017. Regarding the impact, 64% of the sample shows a positive impact, concluding that RV and RA bring benefits in terms of performance and productivity of employees

This work may contribute to future research in the field of human resources management since it allows to synthesize the areas in which RV and RA are mostly applied, for example showing certain gaps in terms of sector and objectives. In addition, it also allows the stimulation of the use of AR and VR in the practice of human resources, demonstrating benefits in the performance management and productivity of employees.

### **Key-words**

Human Resource Management; Virtual Reality; Augmented Reality; Systematic Literature Review; Productivity; Performance Management

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