The Perception of Virtual and Augmented Realities in the Construction Industry based on Contractor's Perspectives in Washington State

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ABSTRACT

The construction industry has a slow rate to adopt new technologies (e.g., virtual reality) with resistance to change and a lack of research and development within construction companies. Virtual Reality (VR) and Augmented Reality (AR) have shown some practical applications in construction such as educational training, clash detection, project coordination, immersive visualization, and virtual project walk-through. Few construction companies use VR and AR in project preconstruction and construction phases. This is because of unknown benefits and different perceptions from project stakeholders. This paper investigates the perception of VR and AR in the construction industry in Washington State. The authors collected survey data from general contractors that are members of the Associated General Contractors of Washington. The survey included 20 quantitative questions using the five-point Likert scale. The collected data revealed the perception of VR and AR in project planning, development, construction, operation, and maintenance phases. The results informed current industrial practices and future research developments on virtual and augmented realities. The results also indicated a lack of training and education on virtual and augmented realities in the construction industry.