

**How to Utilize AR Devices for Sports Spectators: The Mediating Roles of Immersion and Perceived Usefulness**

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**50-minute poster presentation**  
**(including questions)**

**Introduction**

The proliferation of technological innovations has transformed the structure of sports environments (Potts & Ratten, 2016). Indeed, because most affordable head-mounted displays (HMD) have been released to the mass market, are for Augmented Reality (AR), the sports industry can access and obtain a wider customer scope (Fan, Seigneur, Guislain, Nanayakkara, & Inami, 2016). While these changes contributed to professional sports teams' increased capabilities, they also led to increased competition among sports teams and required them to devise new services. Therefore, each team has strived to attract fans by providing unique spectator experiences based on experiential marketing (Brakus, Schmitt, & Zarantonello, 2009).

Last year, several Korean Baseball Organization (KBO) teams implemented AR broadcast services as a demo at their home stadium. These services met fans' needs and received positive reviews from them (Son, 2016). Such compelling instances indicate that it is crucial to recognize AR services' influence in sports contexts. Thus, we focused on how to utilize and improve such sports AR devices. The purpose of this study was to examine the relationships among immersion with and the perceived usefulness (PU) of AR devices and fans' behavioral intention (BI) to identify which variables should be considered in planning marketing strategies.

**Methods**

To achieve the purpose of this study, we used strategic experiential modules (SEMs) based on Schmitt (1999). A total of 350 questionnaires were obtained from sports spectators who used an AR device in a sports stadium during a game from April 3rd to May 10th, 2016. Then, we tested 317 valid data by using SPSS21.0 and AMOS 20.0. The reliability and validity of the scale were evaluated by Cronbach's alpha and a confirmatory factor analysis (CFA), respectively. Furthermore, structural equation modeling (SEM) was used to verify the hypotheses and path analysis. Finally, we identified the significance of multiple mediators by utilizing bootstrapping.

**Results**

The following results were obtained. First, the experience of an AR device has a positive effect on immersion. Second, the experience of an AR device has a positive effect on PU. Third, immersion has a positive effect on BI. Fourth, PU has a positive effect on BI. Fifth, the experience of an AR device does not have a significant influence on BI. Sixth, both immersion and PU work as multi-mediated factors between the experience of an AR device and BI. It revealed that the indirect effects of immersion and PU are individually significant, respectively.

**Conclusion**

The contribution of this study is that we discovered immersion's and PU's respective effectiveness in sports AR environments. This implies that the experience of an AR device plays an important role in facilitating interactions between sports spectators and games. It can be inferred that fans' immersion and PU provided by AR devices can enhance their BI in a sports stadium and can influence an AR environment. In other words, sports teams need to consider immersion and PU in order to strengthen fans' watching BI. Based on SEMs, the findings of this study can be adopted by sports teams' marketing strategies as needed at the to provide practical and theoretical guidance for

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the design of technological sports contexts. Moreover, the results of this study are promising in South Korea and in the other countries.

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