The Adoption and Preferences Among Sport Fans for In-Stadium Sport Team Apps

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The rise of sport-related applications in both availability and features has skyrocketed in only the last few years. In addition to providing fans with team news, schedules, and the opportunity to purchase tickets, these team apps are now evolving into “remote controls” for fans that attend games at the stadium (Sacramento Kings Launch New App, 2016). These apps enable fans to see which restroom line is shortest, order concession items right to their seat, and through beacon technology, some team apps can send fans offers for discounted tickets, merchandise or concessions, depending upon where the fan is located within the stadium. To further enhance the fan experience, team apps can offer fans instant replays from a variety of angles and a wealth of in-game statistics.

With all of these services available, there are any number of reasons a fan may choose to download the app. Furthermore, the motives for actual and ongoing usage may differ among fans (Kang, Ha, & Hambrick, 2015). Despite a rapid rise in the development and evolution of these apps, little attention has been given to understand the perceptions that fans have towards these apps and the role that the apps play in various sport consumption behaviors (Ha, Kang, & Ha, 2015). The purpose of this study was to explore the relationship between fans’ sport team identification, team app evaluations (i.e., ease of use and usefulness), and fans’ future intentions to use the app.

One of the frameworks germane to technology adoption is the Technology Acceptance Model (TAM; Davis, 1989). TAM was developed to explain how individuals use and accept information technology based on two key determinants - perceived usefulness and perceived ease of use. Previous literature on TAM has identified that a major weakness of TAM is the inability to explain other possible factors besides usefulness and ease of use (Kim, Yoon, & Han, 2014; Venkatesh, 2000). Since mobile applications are highly personalized, the determinants for adoption and user preferences may vary across individuals. Kim, Yoon, and Han (2014) extended the original TAM model to reflect perceived ease of use, perceived informative usefulness, perceived entertaining usefulness, and perceived social usefulness. Together, this extension to the TAM serves as a conceptual lens through which researchers can examine app preferences among sport fans, so as to better understand how to develop and improve team apps.

Team identification (Trail & James, 2001) is a prominent concept in sport consumer behavior literature. Within a sport context team identification has been defined as the psychological connection a fan has to a team (Wann, 2006). Individuals who have high identification have been shown to display high levels of attachment to the team they support (Shapiro, Ridinger, & Trail, 2013). When using a team mobile app, individuals are partaking in a level of engagement with the organization that forms a point of attachment between fans and the sport team. Identification is a variable of interest in this study, because it has been found to be an antecedent of engagement (Yoshida, Gordan, Nakazawa, & Biscaia, 2014), and can therefore add to the understanding of app usage and preferences.

Methods
Participants in this study will be recruited online through a loyalty program of a Women’s National Basketball Association (WNBA) team. While approval from the team’s management to collect data from fan database has already been approved, data collection for this study is set to take place during the spring of 2017.

Measurement
A 38-item survey will be distributed to a database of 2000 WNBA fans, including the following measures: 5 demographic items, 3-item Team Identification (Trail & James, 2001; Trail et al., 2003), a 12-item modified TAM (Davis,1989; Kim et al., 2014) in line with Kim et al. (2014) including 4 subscales (perceived informative usefulness (PIU), perceived entertaining usefulness (PEU), perceived social usefulness (PSU), and the perceived ease of use (PEOU). Six items were also pulled from Kim et al. (2014) and in line with Ajzen’s (1991) Theory of Planned Behavior, to measure fans’ intent to use the app (dependent variable) and fans’ attitudes towards the app. Each of
these 18 items will be measured on a 1 = strongly agree to 7 = strongly disagree, Likert-type scale. Reliability coefficients for these subscales have been found to be acceptably reliable in a sample of general smartphone users (α > .70; Nunnally, 1978). Similar to Ha et al. (2015), the items in this study were modified to reflect not only smartphone technology adoption in the sport context, but specifically, sport team apps. Additionally, in order to understand how individuals are using the mobile app, respondents will be asked to indicate the likelihood (1 = extremely unlikely to 7 = extremely likely) they would spend time using 12 specific features of the mobile app (e.g., purchase tickets, view in game statistics).

Analysis
To verify the modifications of the adopted scales to be used in a mobile app setting, a confirmatory factor analysis (CFA) will be run to assess internal consistency and reliability. Structural equation modeling (SEM) with mPlus7 will then be employed to determine the relationships between PIU, PEU, PSE, PEOU, in relation to intention to use the sport team app. SEM will also be used to determine if attitude toward mobile app usage mediates the relationship between the antecedents to app use and intent to use. Finally, analysis of variance will be used to look at the differences between high and low identified fans with regards reported app use preferences.

Discussion
Theoretically, this study aims to create a conceptual model to understand the antecedents to app usage, but also more practically, results from this study are intended to advance the understanding of the motives and preferences within sport team apps. It's not just the fans who benefits from using these apps. The teams who offer the apps have the potential to benefit by enhancing the fan experience at games, gathering insights on fans through in-app data collection, and by providing the potential for enhanced revenue streams through sponsorship, advertising, promotions, and fan services both on and off the field (Olson, 2010).