Sport Consumers in a ‘Smart Sport’ (SS) Age: Smartphone and Sport

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With the rapid dissemination of smartphone use, sport fans are actively engaging in various activities using either pre-installed web-browsers (e.g., Safari for iPhones) or sport-related applications (apps). For instance, smartphones have become a primary platform to obtain sports news and information, to purchase game tickets, to communicate other sports fans, and to receive commercial offers with one-click access almost anytime and anywhere. As a result, both sport marketers and researchers have begun paying attention to smartphone usage, in hope to explore additional advertising, marketing, and branding opportunities (see Anthes, 2011; Bellman et al., 2011; Wang, Park, & Fesenmaier, 2012). However, sport management researchers have given little attention to sport fans’ smartphone usage, while there is presently active research focusing on computer-based online sport consumption behaviors (e.g., Hur, Ko, & Claussen, 2011, 2012; Seo & Green, Ko, & Lee, 2007). Given smartphones’ core functions evolve around the mobile internet, they have some advantages over the computer-based internet, which allows users to (a) access sport information instantly regardless of time and location, (b) receive customized sport information using apps’ features (e.g., push function of ESPN ScoreCenter), and (c) to obtain various sport information while on the move due to its portability (e.g., designed to fit into a pocket/purse/hand; Ha & Kang, in press). However, despite the aforementioned advantages and significance of smartphones, there had been limited attempts to understand how people use smartphones in the sport consumption context. Thus, the purpose of this study was to investigate what factors attract individuals to use this emerging technology (i.e., smartphone) in a sport consumption setting.

It is well documented that Technology Acceptance Model (TAM; Davis, Bagozzi, & Warshaw, 1989) has long been used as a theoretical framework in explaining determinants of an innovative technology usage. While the TAM has traditionally been applied to innovative technology adoption behaviors, more recent studies have applied TAM to more general settings relating to consumers’ actual usage and adoption of the technology (e.g., Gao, Rohm, Sultan, & Huang, 2012). According to the TAM, there are three perceptions affecting intention to use an innovative technology: Perceived Usefulness (PU), Perceived Ease of Use (PEU), and Perceived Enjoyment (PE). Numerous TAM-based empirical studies have provided robust agreement that the three TAM-based perceptions were significant predictors of the intention to use new technologies (Bruner & Kumar, 2003; Hsu & Lin, 2008; Venkatesh & Davis, 2000). Based on previous studies, we proposed the following three hypotheses:

H1: Sport fans would be more likely to use smartphone if it is perceived useful for sport consumption.

H2: Sport fans would be more likely to use smartphone if it is perceived easy for sport consumption.

H3: Sport fans would be more likely to use smartphone if it is perceived enjoyable for sport consumption.

Although the above TAM-based perceptions can significantly influence the adoption of smartphones in a sport consumption context, the TAM has been criticized for being overly simplified (Park, Lee, & Cheong, 2008; Venkatesh, 2000). To address this limitation, we attempted to explore how sport-specific factors (i.e., sport involvement and sport commitment) and smartphone-specific factors (i.e., social influence, personal attachment, media multitasking) influence intention to use smartphones in sport consumption setting. Accordingly, we proposed the following three additional hypotheses, which were informed by previous studies (Hur, Ko, & Clausen, 2011, 2012; Taylor, Voeker, & Pen, 2011; You, Lee, & Park, 2011; Zhong, 2013):

H4: Sport-specific factors (sport involvement, sport commitment) would positively affect intention to use a smartphone for sport consumption.
H5: Smartphone-specific factors (social influence, personal attachment, media multitasking) would positively impact intention to use a smartphone for sport consumption.

H6: Intention to use a smartphone would positively influence actual usage of smartphone for sport consumption.

A total of 187 usable surveys were collected from students at the two large Midwestern Universities in the United States. To measure ten factors involved in the structural model, we adapted a total of 37 items based on the review of literatures. To assess the psychometric properties of the scales, we conducted a confirmatory factor analysis (CFA) using Mplus7. The data met the linearity assumption and severe multicollinearity or singularity was not present. However, the normalized Mardia’s coefficient (1985) of skewness were 62.95 (p < .001) and the kurtosis were 61.99 (p < .001), indicating lack of multivariate normality. The measurement model fit the data well ($S-B \chi^2/df = 765.84/482 = 1.59$, CFI = .95, SRMR = .05, RMSEA = .06, WRMR = .76). All factor loadings were significant in the predicted direction (p < .001; loadings ranging from .55 to .97). All reliability coefficients were larger than .70, ranging from .82 to .97 and all of the average variance extracted (AVE) values were greater than .50 (ranging from .62 to .86). Thus, the measures demonstrated good convergent validity and reliability (Hair et al., 2009). We examined the discriminant validity for each construct by performing multiple $\chi^2$ difference tests of unity between all pairs of constructs. The unconstrained model (correlation estimated freely) was significantly better than the constrained model in all comparisons (the smallest adjusted $S-B \chi^2$ was 30.19, p < .001). In addition, the AVE values for all constructs were larger than the corresponding squared inter-construct correlations, providing additional support for discriminant validity (Fornell & Larker 1981). In aggregate, the results indicated that the measures possessed adequate psychometric properties.

We tested the hypothesized model using a simultaneous equations model approach. The overall fit measures of the simultaneous equations model indicate good fit of the model to the data ($S-B \chi^2/df = 808.27/489 = 1.65$, CFI = .94, SRMR = .06, RMSEA = .06, WRMR = 0.96). All sport specific factors significantly influenced the Intention to Use Smartphone; Sport Involvement ($\gamma = .30$, p < .01) and Sport Commitment ($\gamma = -.34$, p < .01). Among the factors of perceptions toward smartphones, Perceived Ease of Use had significant impact on Intention to Use Smartphone ($\gamma = .42$, p < .01). Regarding smartphone-specific factors, Media-Multitasking had significant influence on Intention to Use Smartphone ($\gamma = .53$, p < .01). Finally, the Intention to Use Smartphone showed strong significant relationship with Actual Use of Smartphone for Sport Consumption ($\gamma = .57$, p < .01). Overall, the model accounted for 66% of variance in Intention to use Smartphone.

Given the limited attention paid to the use of smartphone in sport consumption context, the results of this study would serve as an initial entry point in understanding individuals’ smartphone usage behavior and decision making process for sport consumption. The current study also offers several benefits for both scholars and practitioners. Theoretically, the conceptual model provides clear perspective beyond TAM, bridging the gaps between unique smartphone functions and consumers’ intention to accept mobile technology for sport. In addition, the empirically tested model lays groundwork for future research to be conducted in the areas of innovative technology use for sport specific content. For example, the theoretical model can be applied to a tablet computer which is another emerging media platform for sport fans to consume sports. For sport marketers, gaining a deeper understanding towards sport fans’ decision making processes would provide ideas for better services and additional sponsorship opportunities using the current technologies. Furthermore, the results of this study would provide meaningful information for sport-related app developers or mangers to effectively design the apps and mobile Internet sites to be perceived as useful, easy and enjoyable, which may in turn increase intention to use it.