Licensed products of sporting events serve as memorabilia for fans who want to preserve their memories (Apostolopoulou, Papadimitriou, & Damtsiou, 2010). Fans develop meanings and values for licensed products which affect their future consumption behavior (Papadimitriou & Apostolopoulou, 2015). For the event organizers, licensing has become an important revenue source. For instance, recent licensing programs of the 2008 and 2012 Olympic Games exceeded 100 million USD reaching 163 million and 119 million USD respectively (IOC, 2015). Tracking the sales revenue of sporting events can describe actual behavior patterns of sport spectators and provide implications for both licensors and licensees. The findings of our analysis, using revenue data from the exclusive licensee of the 17th Asian Games, provide detail insights concerning purchase behaviors of sport spectators and management of sales revenue.

To date, there is no empirical research analyzing actual sales data of sport licensed products. A body of research conducted surveys of licensed sport products based on psychometric assessments of fan perceptions (e.g., Apostolopoulou et al., 2010; Kwak, Kim, & Hirt, 2011; Kwon, Trail, & James, 2007; Papadimitriou & Apostolopoulou, 2015) but never utilized actual sales revenue. There are three primary reasons why actual sales revenue data can benefit sport managers and academics.

First, sales revenue reflect actual purchase behavior rather than intentions. Intentions are not perfect predictors of actual behavior. While intentions are useful in predicting behaviors, researchers continue to bridge the gap between intentions and behaviors (Chandon, Morwitz, & Reinartz, 2005; Sheppard, Jon, & Warshaw, 1988). Specifically, Baumeister, Vohs, and Funder (2007) asserted that introspective self-reports, hypothetical scenarios, and questionnaire ratings cannot completely supplant direct observation of behavior and advocated a commitment to include direct observation of behavior across academic disciplines. Second, using the actual sales revenue data provides means to establish an empirical model of sport consumer behavior. Whereas questionnaire surveys predict behaviors by using self-reports and hypothetical scenarios, scrutinizing purchase behaviors based on a priori considerations can serve as means to clarify the effects of practical variables in the context of spectator sport. Further, practitioners and academics can better generalize predictive power of the variables when the model is grounded and interpreted by existing theories. Third, tracking the sales revenue data of licensed products can provide useful metrics for licensors and licensees. For instance, total sales can reflect the value of exclusive licensing and sales by different types of products can elucidate the strategic revenue sources.

Using the actual sales revenue data we test a model of licensed sport product purchase behavior. Since actual purchase behavior were rarely studied in the realm of sport business, we expect that the results of our model will provide rich implications to managers and researchers. We establish our model based on theories of sport consumer behavior and discuss the results to expand the research boundaries. The two major thrusts of our behavioral economic modeling are the role of nationalism and differences by product attributes in purchase behaviors of global sporting event licensed products. In global sporting events, host nations stimulate social control to arouse feelings of nationalism, community, and pride (Apostolopoulou et al., 2010; Tomlinson & Young, 2006). According to the social meanings and functions framed in global sporting events, Apostolopoulou et al. documented that highly symbolic meanings are embedded in the consumption of licensed products of a global sporting event. Based on the premise of nationalism and symbolic consumption in global sporting events, we synthesize the sport consumer behavior literature to understand and construe predictions about purchase behaviors. Further, different attributes of licensed products are considered in the analysis.
We propose a simple model that demonstrates the impact of the game results and licensed product characteristics. Our goal is to demonstrate the effect of winning—celebration of nationalism and national pride (Apostolopoulou et al., 2010; Decrop & Derbaix, 2010)—on various types of products. In particular, licensed apparel are distinguished as a product with symbolic meanings to the local community where wearing such apparel can express their identification with the event (Apostolopoulou et al., 2010; Cialdini et al., 1976). On the other hand, national souvenirs are categorized as memorabilia targeted to attract foreigners visiting the destination (Moscardo & Pearce, 1999). Further, we specified whether an unexpected gold medal will have different effects over product purchase, compared to expected gold medals, based on expectancy disconfirmation model of satisfaction (Oliver, 2010).

To conduct the empirical analyses, we utilized a dataset of daily sales revenue by types of products as well as by stores where products were sold. During the event period, 17 retail stores were located in 17 different stadiums, which allowed us to relate the abnormal sales revenue at a store on a specific date to the performance of the host country in that stadium on the same date. After categorizing all products into seven groups (mascot dolls, outdoor clothing, memorabilia, accessories, practical goods, kids products, and cheering tools), we were left with 1,232 product type-store-day observations between September 14, 2014 and October 4, 2014.

Next, we traced all game records during the 17th Asian Games to identify dates and locations of the host country winning gold medals. We also determined whether the gold medals were expected by the media or not by analyzing predictions made by four major news media outlets in South Korea prior to the event. We define a gold medal to be unexpected if only one or even no sports magazine had predicted that the host country will win a gold medal in that discipline.

An OLS regression was performed between daily sales revenue of a product as the dependent variable and daily attendance, whether it is in a weekend or not, winning an expected gold medal, and winning an unexpected gold medal as independent variables. The overall model was significant (F = 26.12, p < .001) with R-square at .39. The adjusted R-square value of .37 indicates that more than a third of the variability in sales revenue is predicted by the independent variables. Parameter estimates of attendance was significant (ps < .001) across all items; whether it is in a weekend or not was significant across all items (ps < .01) except national souvenirs (p = .84); winning an expected gold medal was significant in the overall model (p < .01) and other miscellaneous items (p < .01); and winning an unexpected gold medal was significant in the overall model (p < .05) and licensed apparels (p < .05). These results help explain diverse consumer purchasing behaviors for different types of products. Foremost, controlling for the number of attendees and whether the game is held during the weekend or not, a host country winning a gold medal significantly affected the total sales of licensed products. Specifically, a day with an unexpected gold medal victory boosted sales of apparels. A day with an expected gold medal victory increased sales of other accessories. Either gold medal achievement did not affect the sales of national souvenirs of the host country targeting foreign customers.

Using revenue data from the exclusive licensee of the 17th Asian Games, we analyzed how nationalism influences purchase behavior of licensed sport products and how a licensee can diversify their sales strategies for different types of items. Results support that licensed product purchase behaviors are influenced by celebrations of nationalism and products reflecting symbolic meanings are more affected to the game results. The estimated coefficients are consistent with the predictions based on previous literature. In the presentation, we will further discuss the detailed results of each model and the managerial implications of our analysis based on the revenue data and extant literature.