Exploring Year-to-Year Attendance Behavior and Sport Brand Double Jeopardy

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The Law of Double Jeopardy has consistently been found to explain and predict consumer behavior across a wide range of industries. Consumers are rarely solely loyal to one brand and, instead, purchase across ‘repertoires’ of similar brands to satisfy their category requirements (Ehrenberg, Uncles & Goodhardt, 2004). Within this behavior are recognizable and predictable patterns. McPhee’s (1963) double jeopardy pattern identified that smaller share brands receive not only fewer customers, but also slightly lower levels of loyalty from their customers than do larger brands (Ehrenberg, Goodhardt & Barwise, 1990). Thus, small shares brands suffer in two ways – fewer customers and lower loyalty amongst those customers they do have. There has been speculation that this empirical generalization may not hold in the case of professional team sport brands (e.g., Gladden & Funk, 2001; Sharp, 2010). Reasons given include the passionate loyalty of sport fans, the fact that two sport teams must be consumed at once in any contest and strong geographic dominance of sport brands. In the only published test of double jeopardy patterns known to the authors, Doyle et al. (2013) found, contrary to previous speculation, double jeopardy patterns exist between high market share teams and brand associations and attitudinal loyalty. Included in their initial, exploratory, work was a call for future research considering behavioral loyalty and longitudinal design.

To test for the existence and stability of double jeopardy patterns within professional team sport, we conducted analysis of live game attendance data collected over a three year period. The Australian Football League (AFL) was selected as a uniquely suited context for this research due to a combination of unusual features providing wide access to games played by each team. Ten of the eighteen AFL teams play in the greater Melbourne area, which reduces geographic barriers to brand (team) switching among consumers. While somewhat atypical, similar concentrations are not unheard of elsewhere. The EPL includes six teams based in London, while the NRL has eight teams based in greater Sydney. More commonly, large cities are frequently home to pairs of competing teams in many sports and leagues. The AFL additionally offers a league membership, which can be thought of as similar to a stadium membership or season ticket, spread across two stadiums and allowing access to games involving every team in the league each season.

Data was provided directly by the governing body of the AFL from their customer database. For each of the ten teams located in the greater Melbourne area, 200 AFL members were selected at random. In addition to basic demographic data, the sample included total years of membership, consecutive years of membership, first season of membership, designated team of support, and game-by-game attendance for three seasons. Game attendance was tracked through bar code scanning at the stadium. AFL memberships are non-transferable, meaning they cannot be given to others to use, increasing the reliability that the dataset captures every game attended by the identified member and no others. The game-by-game attendance data allowed for calculation of brand consumption patterns for consumers of each of the ten teams in each of three years. This also allows for detailed investigation of how frequently the customers of each team are shared with each other team and how the customer bases overlap between teams with large and small market share.

Dirichlet models have been commonly used in tests of double jeopardy effects in non-sport contexts (e.g., Ehrenberg et al., 1990; Sharp, 2010). The Dirichlet model parsimoniously requires few data points to generate theoretically-based estimates of expected market behavior. Two category-level estimates are necessary, one representing the market penetration of the overall category and one the average rate of buying of the overall category. For each brand studied within the category, an estimate is needed for brand penetration and average purchase rate of the brand. Dirichlet VB (Kearns, 2004), an Excel-based program for fitting Dirichlet models, was used to calculate expected market penetration, purchases per buyer of the brand and category, and estimated 100% loyalty rates for each of the ten Melbourne area teams for each of the three years studied.
Annual penetration rates for teams were remarkably stable year-to-year. Across the three years studied, no team moved by more than two ranks within the ten teams. Year-to-year rank typically either remained unchanged or altered by one position. Penetration rates between teams varied from a low of 25% to a high of 44%. Annual purchases of a team ranged from 2.9 to 4.9, while average annual purchases within the overall category (i.e. total games attended in a given year) for consumers of a given team ranged from 13.1 to 14.7.

The predicted double jeopardy effects were observed when comparing theoretic predictions generated by the fitted Dirichlet model and observed behavior in each category, with the exception of 100% loyalty rates. As market penetration by a team decreased, brand purchase rates decreased, category purchase rates increased slightly, and share of category requirements decreased, all in line with empirical generalizations commonly found in non-sport contexts. Correlations between observed behavior and predicted behavior in share of category requirements, an overall measure of behavior, were strong and positive for all three years studied, ranging from 0.91 to 0.97. While 100% loyalty rates observed in actual behavior did not match predictions generated by the statistical model, such discrepancies related to solely loyal consumers are not unusual in double jeopardy studies, although the reason remains unknown (Sharp, 2010). Combined with the fact that solely loyal buyers are typically light buyers (Uncles, Ehrenberg & Hammond, 1995), the practical impact of these divergences between predictions and observed behavior is generally minimal.

Double jeopardy has been observed across over fifty consumer and service consumption categories (Ehrenberg et al., 1990). Given its wide applicability in non-sport contexts, continued research into the relevance of the concepts to sport management appears warranted. Doyle et al. (2013) found evidence for double jeopardy patterns in sport attitudes, while the current study identified such patterns in behavioral sport attendance data. The longitudinal design of the current study also found these patterns to be stable across multiple years and unperturbed by variation in level of on-field success. Future work will be necessary to incorporate analysis of behavior extending beyond in-person attendance to media consumption (both television and internet) and team-related merchandise sales. This will broaden the potential applications of the findings and further establish the relevance to sport contexts other than co-located or neighboring teams and into more commonly-found geographic relationships.

The findings of the current research, meanwhile, identify the potential importance of double jeopardy in sport. Academics and practitioners alike will benefit from increased awareness of the effects of the empirical generalization. When evaluating consumer behaviors, it is essential that relative brand sizes are taken into account. High market share teams will naturally benefit from increased behavioral loyalty relative to their small market share counterparts, independent of any actions taken by marketers or managers of each team’s brand. A failure to account for this effect, clearly identified in the current research, will introduce bias and distortion into related research. Recognition and inclusion of the effects can lead to increased robustness and accuracy of findings and greater understanding of the processes involved, which can benefit both theory development and practical implications.