**Fan Equity** Part 1: Measurement and Management of Sports Organization’s Brand Equity

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The information revolution has led to fundamental shifts in how marketing is viewed and conducted. As information technology has become more sophisticated and data has become cheaper and more plentiful, marketing organizations are increasingly able to quantify the impact of marketing decisions and the value of marketing assets.

This last phrase “marketing assets” may be unfamiliar. It is still somewhat unusual for marketing organizations to think of themselves as asset managers. However, with the growing availability of data marketers can now go beyond “gut feel” and can focus on the measurement and development of brand and customer assets. In the first entry in the AMP series we focused on the management of an organization’s “customer relationship assets.” In that document, we discussed the relationship between the long-term value of customer relationships and marketing activities.

In this article, we consider the value of sports organizations’ brands. This includes the description of a methodology for measuring brand equity or, as we will call it **Fan Equity**. We will also provide some guidance for how organizations can begin to link marketing decisions and team outcomes to **Fan Equity** development.

Brand equity is an established marketing concept. Intuitively, we know that the Coca-Cola name or the Nike Swoosh has an economic value. Brand equity is in practice, however, a difficult asset to measure and manage due to its inherent
intangibility. Fundamentally, a brand has value because of how consumers think about the brand and the emotional connections they have to the brand (or team in our case). The objective of this article is to discuss the measurement and management of a team’s brand equity. Given the special relationship that exists between teams and fans, we prefer the phrase *Fan Equity* when considering brand equity in the world of sports.

We begin this article with multiple goals. In addition to laying a conceptual foundation, we also have multiple practical aims. We spend a great deal of time on applied issues with an emphasis on applying statistical techniques to brand equity measurement. Specific goals are as follows:

**GOALS**

- Introduce the concept of Brand / *Fan Equity*
- Describe a statistical methodology for measuring brand / *Fan Equity* based on revenue premiums
- Provide examples of the application of the revenue premium model
- Discuss alternative approaches to brand equity management
- Provide several examples of how marketing decisions and team results can influence Brand / *Fan Equity*

To accomplish our objectives, this document is organized as follows. We start with a brief discussion of the concept of brand equity and how this concept may be applied to sports. In this section we discuss our preference for the term *Fan Equity*. 
Section 2 describes an approach for measuring Fan Equity. This section focuses on the logic of our approach, necessary data and statistical techniques. Section 3 then implements the model and reports sample Fan Equity rankings for the NBA. Within this section we take a deeper dive into several of the rankings to further explore how the “revenue premium” model works.

Section 4 provides some preliminary guidance related to how the Fan Equity metric may be used to evaluate and guide marketing decisions. This section is fairly elementary as we plan to publish a follow up document that provides more details and several examples of how the Fan Equity model may be used to evaluate the impact of on-field success, player success and marketing strategies.

Section 5 provides some final thoughts about the revenue premium based model of Fan Equity. In particular we examine the weaknesses of the model and discuss other possible approaches.

SECTIONS

1. Brand Equity in Sports
2. Measuring Fan Equity
3. Example: The NBA
4. Fan Equity and Marketing Decisions
5. Critique and Alternative Approaches
1. Brand Equity and Sports

Brand equity is a core-marketing concept. The basic idea is that brand names, symbols, and other assets have an economic value. Economic value exists because high equity brands often result in decreased price sensitivity and increased customer loyalty. The brand equity concept is a natural fit for sports marketing since sports fans have extraordinary levels of loyalty and are often willing to pay substantial prices.

As noted, brand equity is an established marketing concept. For instance, a common framework for considering brand equity is David Aaker’s model. Aaker identifies five components of brand equity: Brand Loyalty, Brand Awareness, Perceived Quality, Brand Associations and Other Proprietary Assets. While this framework provides guidance for thinking about brand equity, it does not provide a clear path to measuring and managing brand equity. Aaker’s model does, however, suggest the means by which brand equity leads to increased revenues and profits. Factors such as increased loyalty and perceived quality likely manifest as higher demand levels and increased willingness to pay higher prices. The implication is that looking at loyalty and pricing power that is not explained by product quality may measure brand equity.

Our preferred approach to moving the brand equity concept to an empirical reality is to use market outcomes to make relative assessments of brand equity. For example, the academic literature has discussed price and market premiums as measures for brand equity. The key in these “premium” based approaches is an ability to monitor the market response metric of interest (prices, market share, etc…) and an ability to identify and control for quality differences.
A price premium occurs if a brand is able to charge a higher price than brands of comparable quality. A classic example of a price premium measure of brand equity occurred when GM and Toyota launched a joint venture that produced the nearly identical Geo Prism and Toyota Corolla. While these cars were produced by the same facility, the Toyota version was able to achieve a price more than 10% higher than the Prism. A higher market share for one brand relative to a brand of identical quality might similarly be taken as evidence that the first brand has stronger equity.

We should note that a potential issue with these premium measures is that “other” advantages such as distribution network strength may be inappropriately captured as brand equity. For example, in a sports context, it would be inappropriate to make judgments based only on teams’ prices. The fixed nature of markets would make it difficult to compare the equity of teams in, say, St. Louis or New York based solely on prices.

The approach we advocate in the current article combines the price and market share premium concepts and uses a measure of revenue. The “Revenue Premium” approach combines the measure of popularity captured in the market share premium and the greater willingness to pay captured in the price premium.

The sports context contains characteristics that both facilitate and complicate the calculation of brand equity. For example, a significant challenge in these “premium” based approaches to brand equity measurement for many products is the identification of a brand of identical quality. In the case of sports, however, winning rates provide an observable and objective measure of quality. On the other hand, the private nature of sports organizations and the complex pricing
structures used to sell tickets often complicates the collection of market response data.

**Key Principles**

- Brands are an economically valuable asset as stronger brands are associated with higher loyalty rates and diminished price sensitivity.
- There are a variety of approaches to measure brand equity. A particularly powerful approach is to use market based evidence such as observed price or market share premiums.
- We advocate the use of “revenue premium” because revenue combines both popularity (market share) and pricing power.
- The sports category is well suited to a “revenue premium” based approach because quality is objectively and directly observable. But challenges related to market demand data and pricing complexity also exist.
2. Measuring Fan Equity

Our baseline concept of Fan Equity is similar in spirit to brand equity but is adapted to focus specifically on the intensity of customer preference. The term fan intensity is important because we are trying to capture the “pure” value of team brands as opposed to the value that is purely driven by location. In most categories, brands can sell across multiple markets. In sports, teams’ market regions tend to be largely fixed. This complicates the calculation of brand value simply because teams in more populous and affluent markets have higher revenue potentials. In terms of an overall brand equity measurement, it would be important to include these market characteristics. Our interest in the current article is to focus on measures of fan interest or engagement rather than to simply measure the value of playing in New York rather than Orlando.

We calculate Fan Equity using a revenue-premium model. The basic approach is to develop a statistical model of team revenues based on team performance and market characteristics. We then compare the forecasted revenues from this model for each team to actual revenues. When teams’ actual revenues exceed predicted revenues, we take this as evidence of superior fan support.

The Fan Equity measure has some significant benefits. First, since it is calculated using revenues, it is based on actual fan spending decisions. In general, measures based on actual purchasing are preferred to survey based data. The other key benefit is that a statistical model is used to control for factors such as market size and short-term variations in team performance. This allows the measure to reflect true preference levels for a team, rather than effects due to a team playing in a large market or because a team is currently a winner.
For the mathematically inclined, we describe a simple version of the *Fan Equity* model below. Equation (1) simply states that team i’s box office revenue in season t is a function of the team’s performance in season t, the economic potential or characteristics of the team’s home market and the team’s “*Fan Equity*.”

\[(1) \text{Revenue}(team \ i, \ season \ t) = \ f(\text{team \ performance}, \ \text{market \ potential}, \ \text{Fan \ Equity})\]

We implement equation (1) through a statistical model. For example, if we wished to use linear regression we would translate equation (1) into something like equation (2) below.

\[(2) \text{Rev}(i, \ t) = \ \beta_0 + \beta_1 Win\% (i, \ t) + \beta_2 \text{Playoff} (i, \ t) + \beta_3 \text{Population} + \epsilon_{i,t}\]

Equation (2) says that a team’s revenue is a linear function of its winning percentage in the current season, whether or not the team made the playoffs and the population of the team’s market. This is, obviously, a simple expression for revenue. The winning percentage and playoff variables are included to capture team quality, and the population variable is intended to control for variations in market potential. In practice, additional variables would be included in the model, and the model specification would not necessarily be a simple linear expression. The \(\epsilon_{i,t}\) term at the end of the equation may be interpreted as an error term that captures factors (such as *Fan Equity*) not included in the model.

Equation (2) is estimated (meaning that we determine the values of the \(\beta\)'s through statistical analysis) using multiple years of data for each team in a given league. This is a critical point that deserves emphasis. We estimate the value of winning
and market characteristics using data from all teams across a league. This means that the model yields the average value of winning, population, median income, or whatever is included in the model. The result is that the rankings are based solely on data rather than on opinion or judgment.

Data on winning rates, playoff participation, population and other performance and market factors are easy to obtain. Revenue numbers may be more difficult, however, and some creativity may be needed. At the collegiate level, Title 9 requires schools to report revenue by sport. Accounting standards do seem to vary across schools, but these numbers are widely used. At the pro-level, the non-public nature of most teams complicates the situation. Forbes does publish an annual estimate of team values that includes an estimate of annual revenues.

In our rankings, we have explored multiple types of data, but based on our experience, we have developed a preference for a simple estimate of box office revenue constructed by multiplying attendance by average ticket prices. There are, of course, objections to this metric, but our feeling is that it is a very good measure of the “intensity” of the mainstream (local) fan.

We should also note that, while we prefer a measure of revenue, the key is to find some market outcome that is observable. Television ratings, merchandise sales or social media activity might also be useful “outcomes” for Fan Equity measurement. Along these lines, we actually publish Social Media Equity rankings as well. We will be releasing a follow up article that discusses the measurement of brand equity based on social media data in the near future.
In sum, we start with a bunch of data and some concepts (theory) that guide the way we approach the analysis. In the case of the Fan Equity study, our guiding theory is that team revenue (or other market outcome) is based on the loyalty of fans, the size of the team’s market, the quality of the product, and the entertainment value of the team. The insight or theory that drives the analysis is that we can build a model that can be used to predict the revenue that is due to observable factors like quality and market potential. We can then look at the difference between the predictions based solely on observables and actual results to get a sense of each team’s unobservable Fan Equity.

The creation of a linear regression model that predicts “revenue” as a function of team performance and market characteristics is useful for understanding how the world works on average. In equation (2), for example, when the model is estimated the $\beta_3$ term would describe the relationship between population and revenue as found in the real world data. If we found that $\beta_3$ was equal to 2, the implication would be that the value of each incremental person in a team’s home market is $2. In the case of MLB, this would mean that the value of the New York market with a population of about 20 million would be about $36 million more than the Milwaukee market with a population of about 2 million (NOTE: we haven’t estimated any models at this point and the value of $\beta_3$ equal to 2 was chosen purely for illustrative purposes).

The basic insight is that we are using real data to determine the value of population, winning and any other factors. Equation (2) is purposely simple. The equation could be extended to include additional measures of performance such as offensive output, number of current all-pros, team payroll, and measures of market potential such as market-level median income or the number of other pro teams.
Note on Fan Equity

In our discussion of what to include in the revenue equation, there is a category of data that is noticeably missing. Specifically, we have not included aspects of historical success, such as past championships or hall of fame players. Our view is that these types of factors are the foundation of Fan Equity. We will return to this topic when we discuss how brand or Fan Equity is created.

Returning to statistical estimation of equation (2) using multiple years of league-wide data, the output of the statistical procedure is an equation that can be used to predict revenue. In the case of equation (2), the equation would be used to predict revenue based on the value of winning and population in the historical data. Our theory is that the difference between this predicted value and actual value is what we define as Fan Equity as shown in equation (3). This may be practically understood as fan loyalty or engagement or intensity or whatever marketing buzzword is popular at the moment.

(3) \( \text{FanEquity}(i, t) = \text{Revenue}(i, t) - \text{PredictedRevenue}(i, t) \)

Our measure of Fan Equity is therefore a relative measure, as it is based on performance relative to league norms. The effect of population or winning measured in the statistical model is based on the results of the complete set of teams. Since we are using residuals and our forecasting equation is unbiased, the implication is that the mean value of Fan Equity is equal to zero. The proper interpretation of the results is via a comparison of teams. If Team A’s Fan Equity is $6 million while Team B’s Fan Equity is -$3 million, the correct inference is that the Team A brand drives an incremental $9 million in revenue relative to Team B.

Key Principles
Note on Fan Equity

- Sports contexts are prime candidates for revenue premium studies of brand equity because quality is objectively and directly observable.

- The selection of the dependent variable is complicated by the lack of revenue reporting. However, measures of attendance, average prices, social media followings, TV ratings and other measures of demand are available.

- The first step in the revenue premium model is the specification and estimation of a statistical model that explains revenue based on team quality and market potential.

- The revenue-forecasting model has utility as it shows how fan support varies across a league based on market size and winning.

- **Fan Equity** is taken as the difference between actual and predicted revenues. The predictions are based on the statistical model.

- **Fan Equity** is a relative metric. **Fan Equity** estimates are interpretable as the revenue attributed to a team’s brand relative to an average franchise.
3. Example: The NBA

The preceding section describes the basic ideas of the approach we advocate for brand or Fan Equity analysis. In this section, we shift from the conceptual to the applied. To facilitate the discussion, we present our most recent Fan Equity rankings for the NBA. We publish the analysis on an annual basis, and the results that follow are from the summer of 2014. We use fifteen years of data to estimate the effects of performance and market size of revenues, and then just a brief window of the three most recent years to perform the rankings. In what follows, we will skip the statistical analyses. While we like to look at $R^2$-squares and $t$-statistics, we know that our interest in the statistical analyses is seldom shared.

The winners in our NBA 2014 Fan Equity rankings were fairly consistent with the conventional wisdom. We ranked the Knicks 1st, the Lakers 2nd, the Celtics 3rd, the Bulls 4th and the Heat 5th. The Knicks finish is largely driven by their exceptional pricing power. The Knicks sell out while charging the highest prices in the league. The Lakers are second in terms of pricing, and also do very well in terms of attendance. This is indicative of exceptional fan loyalty, given that the Lakers won only 33% of their games last year. Miami is perhaps the most intriguing team on the list. *Future years will reveal how much Fan Equity is owned by the Heat, and how much was temporarily contributed by LeBron James.*

In the tables that follow, we provide Fan Equity rankings and a measure of team quality during the 2014-2015 season. Specifically we use the Hollinger power rankings from ESPN.com as of January 18, 2015. The tables list the Fan Equity rankings as of the end of the 2013 – 2014 season and a snapshot of team quality...
during the 2014 - 2015 season. We provide a measure of team quality to illustrate a couple of points about how the rankings work.

An initial observation is that there does not appear to be a positive correlation between Fan Equity and team quality. This lack of overlap between quality teams and clubs with high Fan Equity raises some important issues. The first is an observation about our methodology. We “control” for team quality when developing our rankings. This means that we are looking at fan support when wins (and population) are equal. Second, the lack of overlap should have the NBA worried. The NBA finds itself in a season where the premier brands like the Knicks, Lakers, Celtics, and Bulls are not likely to be factors in the post season. This puts the league and its television partners in the position of not having the optimal market impact during the post-season. The only teams in both the Top 10 of Fan Equity and Power Rankings are the Trail Blazers and Mavericks.

The next few teams on the list are where things get interesting. Portland finished 6th on the list. This finish provides support for the notion that Portland is an extraordinary sports town for a small market. While market size is important in terms of TV deals, Portland should not be neglected when leagues consider expansion. Cleveland’s finish is also notable. While Cleveland has suffered in recent years, there does appear to be a solid base of support. With great young talent and LeBron returning, this should be a fascinating story to watch (despite current on-court struggles). Of course, on the downside, Cleveland fans are likely to find their loyalty rewarded with higher prices.
### Note on Fan Equity

<table>
<thead>
<tr>
<th>'14 Fan Equity Ranking</th>
<th>Team</th>
<th>Logo</th>
<th>Hollinger Power Ranking (1/18/15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Knicks</td>
<td><img src="image" alt="Knicks Logo" /></td>
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<tr>
<td>2</td>
<td>Lakers</td>
<td><img src="image" alt="Lakers Logo" /></td>
<td>27</td>
</tr>
<tr>
<td>3</td>
<td>Celtics</td>
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<td>23</td>
</tr>
<tr>
<td>4</td>
<td>Bulls</td>
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</tr>
<tr>
<td>5</td>
<td>Heat</td>
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</tr>
<tr>
<td>6</td>
<td>Trail Blazers</td>
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<td>7</td>
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<tr>
<td>8</td>
<td>Jazz</td>
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</tr>
<tr>
<td>9</td>
<td>Cavs</td>
<td><img src="image" alt="Cavs Logo" /></td>
<td>18</td>
</tr>
<tr>
<td>10</td>
<td>Mavericks</td>
<td><img src="image" alt="Mavericks Logo" /></td>
<td>4</td>
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</tbody>
</table>

The next block of the table lists the teams ranked 11 through 20. The Nuggets, Kings and Magic are just outside the top ten, while the Rockets, Clippers and Warriors rank 18, 19, and 20 respectively. This part of the list shows a mix of performance levels as well. Orlando and Sacramento are in the lower 20s, and the Clippers and Warriors are near the top of the league power rankings. The middle portion of the league also provides some interesting points for discussion.
<table>
<thead>
<tr>
<th>‘14 Fan Equity Ranking</th>
<th>Team</th>
<th>Logo</th>
<th>Hollinger Power Ranking (1/18/15)</th>
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</thead>
<tbody>
<tr>
<td>11</td>
<td>Nuggets</td>
<td>![Nuggets Logo]</td>
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<tr>
<td>12</td>
<td>Kings</td>
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<td>13</td>
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<tr>
<td>14</td>
<td>Bucks</td>
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<td>11</td>
</tr>
<tr>
<td>15</td>
<td>Spurs</td>
<td>![Spurs Logo]</td>
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</tr>
<tr>
<td>16</td>
<td>Raptors</td>
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<tr>
<td>17</td>
<td>Thunder</td>
<td>![Thunder Logo]</td>
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</tr>
<tr>
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</tr>
<tr>
<td>20</td>
<td>Warriors</td>
<td>![Warriors Logo]</td>
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</tbody>
</table>

The Magic and the Spurs have notable and probably counter-intuitive results. Why is Orlando ranked above the Spurs? The Spurs sold 100% of their tickets (according to ESPN) and averaged 18,632 fans per game. The Magic sold about 90% of their tickets (16,923 per game). According to the Team Marketing Report Fan Cost Index, San Antonio had the 9th highest cost of attendance while the Magic had the 23rd. The two markets are of similar size, ranking 25 and 26 in population according to the US census. On a superficial level, the Spurs have the greater fan support.
Note on Fan Equity

But, the real question is support relative to performance and market potential. So why does Orlando rank ahead of San Antonio? During the 2013-2014 season the Spurs won 62 games and the NBA Championship while the Magic won just 28% of their games. During the last few years, this has been the basic state of the world. The Spurs excel on the court while the Magic struggles. The key point is that the difference in fan support is not what is expected based on league wide data. San Antonio should have more pricing power (the conjecture that the Spurs owners are altruistic and price below market is certainly a possibility) and Orlando’s ability to draw fans while struggling mightily is impressive.

Finally we come to the bottom third of the league. This portion of the table is interesting, as it contains many relatively new teams and teams that have altered branding elements over time. There are also a few teams with long and storied histories. The Timberwolves and newly renamed Pelicans finish 21st and 22nd, respectively. The former Bullets and former New Jersey franchise finish in two of the bottom 3 positions. The Pistons and 76ers are a bit of a surprise given the histories of these two franchises.

The two teams at the very bottom are interesting stories. The Memphis Grizzlies are second from the bottom. Memphis simply doesn't generate the revenues that they should for a team of their quality. Memphis’ finish is especially notable given that the Grizzlies have been named the best overall professional sports franchise.

<table>
<thead>
<tr>
<th>‘14 Ranking</th>
<th>Team</th>
<th>Logo</th>
<th>Hollinger Power Ranking (1/18/15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fan Equity</td>
<td>Timberwolves</td>
<td><img src="image" alt="Timberwolves Logo" /></td>
<td>28</td>
</tr>
</tbody>
</table>
At the very bottom, we have the Nets. The Nets were a surprise to many and even to us. We are fans as well as academics, so when we start an analysis we can’t help but have expectations that are based on the “conventional wisdom.” The Nets have been a high profile story with celebrity ownership and a dramatic move to Brooklyn. The team has also performed well on the court.

So, what is the problem? When you compare the Nets’ fan support to that of other big market teams like the Knicks, Bulls and Lakers, the Nets just don’t have the pricing and drawing power that they should. The table below shows some key comparisons between the Knicks and the Nets from the 2013 season. The teams share the largest population metropolitan areas, but the Knicks achieve a 10.7%
advantage in terms of attendance DESPITE charging much greater prices. It is this greater pricing power that pushes the two teams to opposite ends of the ranking.

<table>
<thead>
<tr>
<th>Metric</th>
<th>Knicks</th>
<th>Nets</th>
<th>Winner</th>
</tr>
</thead>
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<tr>
<td>Population</td>
<td>19.8 M</td>
<td>19.8 M</td>
<td>Same</td>
</tr>
<tr>
<td>Attendance</td>
<td>780,353</td>
<td>704,702</td>
<td>Knicks (10.7%)</td>
</tr>
<tr>
<td>Fan Cost Index</td>
<td>$643.78</td>
<td>$365.06</td>
<td>Knicks (76.3%)</td>
</tr>
<tr>
<td>Winning %</td>
<td>65.9%</td>
<td>59.8%</td>
<td>Knicks (10.0%)</td>
</tr>
</tbody>
</table>

Finally we should re-emphasize that we develop our revenue forecasting models using fifteen years of data, but only use the last three years to rank Fan Equity. We limit the Fan Equity rankings to three years because while fan loyalty and brand equity are enduring, they do change over time. For the more statistically inclined, this is why we don’t simply estimate fixed effects.

Key Principles (Findings)

- Our NBA rankings reveal what the fans and league office know. The league’s premier teams are the Lakers, Knicks and Bulls.
- San Antonio is a great team but its market results do not suggest that it is a high Fan Equity club.
- Current team quality is not necessarily correlated with Fan Equity. This may be counterintuitive but it is a fundamental point. We are looking at Fan support / engagement that is not driven by short-term fluctuations in winning.
  - Of course, the NBA and its TV partners would prefer that Fan Equity and performance be highly correlated.
• Counterintuitive *Fan Equity* results can motivate deeper dives into the data. For example, it is only through digging into the underlying data that the strength of the Orlando fan base becomes apparent.
4. **Fan Equity** and Marketing Decisions

The rankings are (we think) interesting but they also have value beyond providing a simple description of the landscape of fan loyalty. Once we have calculated **Fan Equity**, it becomes relatively straightforward to investigate how various factors contribute to or create **Fan Equity**. The sports context often provides a great laboratory for investigating how brand equity and customer loyalty are created. Teams have an uncommon opportunity to quantify how team success and marketing decisions impact the long-term health of a franchise.

These opportunities do, however, require statistical modeling. To understand the drivers of **Fan Equity** creation, we again rely on data and theory. From a theoretical perspective, we start with the idea that **Fan Equity** is a fairly enduring asset that waxes and wanes based on how teams act and perform over time. Equation (4) says that **Fan Equity** in a given year is a function of what has transpired for a team up until that specific season.

\[
(4) \text{FanEquity}(i, t) = f(\text{past team performance, past players, time in market, etc.})
\]

The logic is that **Fan Equity** is created over time and then impacts current season revenues. We begin, in equation (4), with a fairly open ended view of the drivers of **Fan Equity**. Initial speculation is that brand equity is largely created by on-field performances. That brand equity is created by quality experience is intuitive. The brand equity of Honda or Coca-Cola is without doubt a result of the positive experiences that consumers have had with the brands. In the case of sports, it is an empirical question as to what elements of the past impact **Fan Equity**.
For example, we might conduct the statistical analysis using equation (5) below. In this equation, *Fan Equity* is modeled as a function of the team’s cumulative winning percentage (CumWin%) up until the most recent season, past playoff appearances (PlayoffAPP), and cumulative championships (CumChamps). As before, the equation is kept intentionally simple. In practice, the equation would be specified based on managerial wisdom and data availability.

\[
FanEquity(i, t) = \beta_0 + \beta_1 \text{CumWin}(i, t - 1) + \beta_2 \text{PlayoffAPP}(i, t - 1) \\
+ \beta_3 \text{CumChamps}(i, t - 1) + \epsilon_{i,t}
\]

A consistent finding in our research, across multiple leagues, has been that *Fan Equity* is developed through past post-season achievements. However, the relevant achievements needed vary across leagues. In the case of Major League Baseball, we have found that just making the playoffs drives brand equity, while in the NBA it is necessary to win championships. In College football, we found that the key to building *Fan Equity* was participation in major bowls. Participation in minor bowls was insignificant. Overall, the empirical results suggest that the key to building *Fan Equity* is extreme performances rather than consistent moderate success.

Our conjecture is that the reason extreme performances are what matters is that these are the moments that foster fan communities and publicity. A team that plays in the Rose Bowl gets three hours of prime time coverage on New Year’s Day and additional exposure during a flower filled parade that morning. Playing in the Rose Bowl might (historically) have been reason for a group of fans to leave the Midwest to vacation in Southern California in the middle of winter. Significant bowl games and national championships may be fodder for conversations for decades. In contrast, an appearance in a low level bowl sponsored by a lawn...
equipment manufacturer or a chicken sandwich restaurant is unlikely to drive excitement and build a brand community.

A key point, that should be made explicit, is that understanding the link between past performance and \textit{Fan Equity} provides a means for understanding the true value of investing in championship caliber teams. Furthermore, making a direct link between on-field performance metrics and \textit{Fan Equity} can benefit organizations by clarifying the nature of organization’s long-term objectives. Sports organizations are unique in that they possess goals related to both on-field success and also marketing outcomes. Linking \textit{Fan Equity} to winning over time is a crucial task for sports managers.

In a subsequent article, we will expand on ways in which \textit{Fan Equity} scores can be used by sports businesses. In particular, we have two statistically-based case studies that examine the impact of extreme individual player performances (i.e. Heisman Trophies) and of using different types of mascots (Native American and live animals).

\textbf{Key Principles}

- Measurement of \textit{Fan Equity} is valuable as it provides a check on the health of a sports brand.
- Potentially, the more valuable use of \textit{Fan Equity} scores is as a piece of data to be explained in terms of past organizational outcomes and decisions.
- Linkage of outcomes to \textit{Fan Equity} may be useful for guiding future investment decisions.
- We have found that the key to building \textit{Fan Equity} is championships and deep playoff runs. This finding implies that there is little value in only
investing “enough” to make the playoffs in leagues like the NBA or to make low level bowl games in college football.

- The linkage of organizational outcomes and decisions to *Fan Equity* requires data collection and statistical tools.
5. **Fan Equity**: A Critique and Alternative Approaches

Since *Fan Equity* is an intangible asset, we can never be totally sure that we are measuring it correctly. There are multiple approaches to measuring brand equity in sports, and many different types of data can be usefully examined. The *Fan Equity* measure based on home attendance revenues is our current standard because it reflects what fans are willing to *spend after controlling for team performance and market potential*. In general terms, marketers are almost always better off assessing customers based on how they spend their money rather than what they say.

However, no metric is perfect, and our *Fan Equity* measure can be criticized. First, one of the distinguishing features of sports is capacity constraints. Measures of attendance or revenues may therefore underestimate true consumer demand simply because we do not observe demand above stadium capacity. The second issue relates to owner pricing decisions. An implicit assumption in the revenue-premium model is that teams are revenue maximizers.

For example in our [NFL rankings](#) Seattle has tended to perform poorly. This result has created many questions about the rankings. The numbers suggest that while the Seahawks fans may be very loud, they are a below average fan base on the *Fan Equity* metric. At the end of the day, it appears that Seahawks fans are not willing to pay the prices that you would expect for a team of the quality of the Seahawks in a market with the demographics of Seattle. However, there is another explanation for the Seahawks fans’ poor showing. *Maybe the assumption that the Seahawks are pricing to maximize revenues isn’t correct.* Of course, what this would really
boil down to is whether the Seahawks owners are more altruistic than other NFL owners. Perhaps?

Our Fan Equity measure implicitly assumes that teams are revenue maximizers. There is a reasonable case to be made that this assumption is not always true. For example, the Steelers and Packers could easily raise prices and continue to sell-out their stadiums.

In a supplement to this article, we will be publishing a short work on a metric that we call social media equity. Our Social Media Equity measure, while only based on a couple of years of data, is a useful supplement to the Fan Equity measure. The Social Media analysis allows for fans from outside the market to be counted in a team’s equity score; the social media equity measure is not constrained by capacity limitations, and team pricing strategies less influence the measure. On the downside, the social media metric is based on social media activities that do not require consumer expenditures.

Key Principles

• The revenue premium model of Fan Equity is based on market outcome and statistical analysis. It is explicitly designed to capture fans’ willingness to spend. Compared to other brand equity measurement models, these characteristics result in a much more objective and defensible measurement strategy.

• The revenue premium model of Fan Equity does include strong assumptions related to ownership objectives, and the use of box office revenue can be problematic when capacity constraints are common.
• Other measures of fan demand such as television ratings, social media followings or merchandise sales can also be used to estimate “premium” models of *Fan Equity*. 