

**What Determines an In-Season Coaching Change? Evidence from the NBA**

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**Economics**

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**20-minute oral presentation  
(including questions)**

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Organizational succession has been an important research topic for decades. Early research by Grusky (1963) looked at the impact of team performance after a change in coaching; following this paper many organizational scholars have used sport to examine this relationship between a change in leadership and organizational performance (see Day, Gordon, and Fink (2012) for details). However, minimal research has addressed the determinants of coach firings. Thus, the purpose of the proposed research is to examine the determinants of mid-season coaching firings in professional sport, particularly the role that performance expectations have on the likelihood of firing a coach.

The proposed research builds on early research into CEO dismissals by Frederickson, Hambrick, and Baumrin (1988), who identified basic factors explaining CEO dismissals. These basic factors include the availability of replacement CEOs, the power of the current CEO, and performance expectations. We proxy for the availability of replacement coaches with the number of coaching changes made in the previous offseason. The power of the current coach is proxied by an indicator variable for coaches who are also the team's general manager. Finally, performance expectation is proxied by a coach's cumulative won-loss record against the betting line, a market based measure of performance relative to expectations. Performance expectations are "the smallest outcome that would be deemed satisfactory by the decision maker" (Schneider, 1992, p. 1053). In the organizational behavior literature, previous research examining the relationship between performance expectations and CEO turnover employs variables like 1-year and 5-year analyst forecasts of firm earnings as proxies for expected performance (Farrell & Whidbee, 2003). These measures for performance expectation could be compromised by the CEO's ability to manage the expectations of industry analysis through the media (Farrell & Whidbee, 2003). In contrast, betting lines have been shown in the literature to be excellent predictors of actual game outcomes (Sauer, 1998). Thus, the betting lines can be interpreted as market based forecasts of the expected performance of the team that the leadership of the team does not attempt to manage within the public domain.

The empirical setting is the National Basketball Association (NBA), a setting where many in-season coaching dismissals are made during the regular season. Because of the length of the season, team executives may believe that dismissing the current coach may provide an opportunity to improve the team for the rest of the season. The sample includes game-level data for NBA teams from the 1981-1982 season until the 2011-2012 season. There were 34,105 regular season games played during the sample period, which generates 68,210 team-game observations. In the proposed research, only in-season dismissals of head coaches are examined because these dismissals are generally involuntary meaning that the coach does not voluntarily choose to give up his position as head coach. The sample period contains 135 instances of in-season coach firings. The dependent variable in the proposed research is an indicator for a coach firing after the observed game. Other control variables include the number of games that the coach has been the head coach of the observed team, the number of games remaining in the regular season, and the actual on-court performance of the team.

Due to the dependent variable being dichotomous (fired or retained after the observed game), a limited dependent estimator (probit or logit) should be used (Maddala, 1983). Since mid-season replacements within the sample period are extremely rare (less than one percent of all team-game observations), a rare events logistic model is adopted. A rare events logistic regression model addresses biases in predicted probabilities when sample sizes are large and events are few (King & Zeng, 2001a). The conventional logistic model is nested within the rare events model, meaning that when a rare events adjustment is necessary, the rare events model provides less biased results than the conventional logistic model. When a rare events adjustment is unnecessary, the rare events model provides identical results as the conventional logistic model (King & Zeng, 2001a; King & Zeng, 2001b).

The results from the rare events logistic regression model provide further information for practitioners as to why coaches are fired in-season. Individuals in charge of determining whether or not to fire the current coach face two

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risky prospects. The first is to keep the current coach whose performance is below the expectation of team decision makers. Given time, however, the coach may return to meeting or exceeding expectations. The other prospect is to fire the current coach and hire a new coach. This process can be disruptive to the team as the current literature is mixed as to how a change in leadership affects organizational performance (Soebbing & Washington, 2011). For researchers, the proposed research empirically examines Frederickson et al's (1988) model of CEO dismissals. In addition, it contributes to the literature by examining how performance expectations impact the choice made by team executives to fire its coach.