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New brooms sweep clean, old brooms know the corners: the effects of managerial replacement on employee performance

Marco Henriques Pereira[a], Helmut M. Dietl[a], Markus Lang[b] and Johannes Orlowski[a]

[a]Department of Business Administration, University of Zurich, Zürich, Switzerland; [b]Institute of Sport Sciences, University of Lausanne, Lausanne, Switzerland

ABSTRACT

Although managers are frequently replaced, the effects of managerial replacement on individual employee performance remain largely unexplored. By integrating Human Capital Theory (HCT) and Signaling Theory (ST) to examine managerial replacement, we argue that their seemingly opposing implications—HCT is typically associated with a negative effect on performance, while ST is linked with positive outcomes—are, in fact, compatible. We propose that this relationship stems from two distinct facets of employee performance: *work quality* and *work effort*. We investigate these effects by analyzing data from the professional soccer industry. Our two-stage least squares instrumental variable regressions confirm the effects derived from our theory integration. First, managerial replacement decreases employee *work quality* because new managers assign tasks less efficiently. Second, managerial replacement increases employee *work effort* because employees signal their skills to the new manager. To avoid the negative consequences of managerial replacement without diminishing the positive ones, organizations may consider selecting new managers through internal recruitment, as this approach can efficiently allocate tasks and ideally maintain a sufficient distance from employees to motivate them effectively. We contribute to the succession literature by shifting the focus from the organizational to the individual level, thus offering a plausible explanation for inconsistent findings in prior research.

KEYWORDS

employee performance; human capital theory; managerial replacement; organizational behavior; signaling theory; sports data

CONTACT Markus Lang markus.lang@unil.ch Institute of Sport Sciences, University of Lausanne, Lausanne, Switzerland.

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Introduction

In the dynamic landscape of modern organizations, employee turnover has become an increasingly prevalent phenomenon (Bidwell, 2011; Farber, 2008). For example, Germany has an annual turnover rate of around 30% (Hammermann et al., 2022)—a pattern common across industrialized nations. In this context, replacing managers represents a significant component of employee turnover. Managers often leave their organizations for various reasons, including career development, organizational restructuring, poor performance, retirement, and personal circumstances (Cannella et al., 2009). This frequent succession among managers is an integral part of organizational life. Despite its prevalence, understanding how managerial replacement impacts individual-level employee performance remains incomplete. This paper examines the critical aspect of human resource management by exploring the nuanced ways in which managerial replacement affects organizational outcomes, particularly at the level of individual performance. Through this investigation, we shed light on the mechanisms at play and contribute to a more comprehensive understanding of the implications of managerial replacement.

We formulate three hypotheses derived from Human Capital Theory (HCT) and Signaling Theory (ST), each of which posits a different explanation of the mechanisms involved in managerial replacement and predicts different consequences. HCT focuses on individuals' knowledge, skills, abilities, and other characteristics (KSAOs) and their connection to productivity and performance (Polanyi, 1967). The former manager's KSAOs are no longer available when replaced (Schultz, 1961). ST focuses on the interaction of two different types of agents (Connelly et al., 2011). In the event of managerial replacement, the agents are the new manager and the subordinate employees. The employees aim to signal their skills to the new manager to potentially receive better treatment and benefits.

What both theories share in common is an emphasis on the performance of the manager's subordinates. On the one hand, according to HCT, managerial replacement leads to suboptimal decision-making by the new manager because of the loss of the former manager's KSAOs, especially tacit knowledge (Nonaka & Von Krogh, 2009). Suboptimal decision-making, in turn, leads to inefficient task assignment or imperfect resource allocation and utilization (Höffler & Sliwka, 2003). This chain of events triggers a decline in employee performance. On the other hand, according to ST, employees under a new manager try to signal their skills through high labor input (Connelly et al., 2011). This high labor input is reflected in increased work performance.

The integration of HCT and ST perspectives on individual subordinates' performance is warranted not only because both focus on similar

performance outcome variables, but also (and more importantly) because these variables illuminate elements of individual performance that neither theory alone fully captures. While HCT explains a decline in the performance of a new manager's employees, ST offers an interpretation for an increase in their performance. We argue that HCT views performance from the perspective of *work quality*, whereas ST frames it as *work effort*. Thus, the two theories do not contradict each other, as might have been assumed at first, but rather highlight two nuanced and distinct performance effects, providing a more comprehensive picture of the consequences of managerial replacement on employee performance. This duality is aptly captured by the proverb that inspired our title: "New brooms sweep clean, but old brooms know the corners." The saying conveys that while new managers can stimulate employees to increase their work effort, the departure of the previous manager simultaneously entails a loss of tacit knowledge, which may lead to a reduction in work quality.

We focus on the German first-division soccer league as a natural laboratory to empirically investigate the performance effects derived from our theoretical framework. To this end, we assembled a unique seven-season panel dataset (2011/12–2017/18) comprising 1,284 players across 2,141 matches, yielding more than 43,000 player-game observations. Our approach addresses a key limitation in existing research on human resource strategies and firm performance, which is often constrained by a lack of reliable and consistent data (Dyer & Reeves, 1995). The sports context features frequent managerial turnover and well-documented, standardized performance data across individuals and organizations—conditions that enable the measurability and comparability often lacking in other industries. Like corporations from other sectors, professional soccer clubs operate as complex, goal-oriented organizations with diverse departments, high-performance demands, and distinct hierarchies. In this context, we treat head coaches as analogous to managers in broader organizational settings due to their shared traits and tasks (Dietl et al., 2011; Nesseler et al., 2020), while players represent employees whose performances are shaped by their leaders' actions. This enables us to investigate leadership and performance management dynamics, providing insights into competitive and transparent environments. To address potential simultaneity and endogeneity, we implement a two-stage least squares (2SLS) instrumental variable approach, using short-term performance relative to prior expectations as the instrument.

Our empirical analysis confirms our hypotheses. First, our results show that managerial replacement decreases employee *work quality* because new managers allocate tasks less efficiently. Second, managerial replacement increases employee *work effort* because employees seek to demonstrate their value to new managers. Furthermore, we observe that

these effects are more pronounced when hiring new managers who were previously external to the organization than those with internal ties. Indeed, the effects of managerial replacement may even disappear for new internal managers. Therefore, if organizations can find new internal managers who can effectively motivate employees, internal promotion could offer the optimal solution when these variables are taken into consideration.

Our analysis of the two different performance effects on individual employees contributes to the human resource management literature by addressing three key limitations. First, as noted earlier, prior research on human resource strategies and firm performance has been limited by the absence of robust and comparable data (Dyer & Reeves, 1995). Our paper addresses this gap by employing a "sports-as-a-lab" approach. Using high-quality, granular data across numerous organizations, managers, and employees over multiple years, this study provides a basis for analyzing HR strategies and their impacts within a controlled, comparable framework.

Second, this paper contributes to the succession literature by shifting the analytical focus from the organizational (Desai et al., 2016; Mohr et al., 2012; Su et al., 2023) to the individual level, as advocated by Simmons and Berri (2011) and Tseng and Levy (2019). While organizational-level studies offer valuable insights, they often obscure the mechanisms of performance change by averaging across heterogeneous employee responses. By adopting an individual-level perspective, we demonstrate that managerial replacement can simultaneously reduce work quality and increase work effort—findings that help explain the inconsistent results in the succession literature.

Third, by integrating HCT and ST in the context of managerial succession, we reconcile two theoretical perspectives that are often treated separately. While HCT emphasizes the loss of tacit knowledge and its adverse effect on work quality, ST highlights employees' signaling behavior and its positive impact on work effort. By disaggregating performance into these two distinct components—*work quality* and *work effort*—we provide a more nuanced view of employee behavior following managerial replacement. This theoretical integration not only helps explain the mixed findings in previous research on post-succession performance but also clarifies the underlying mechanisms through which succession affects individuals. Specifically, we empirically demonstrate how the relative strength of competing forces—knowledge disruption versus signaling incentives—determines whether overall organizational performance improves or declines (Höffler & Sliwka, 2003). These individual-level effects then aggregate to shape broader organizational outcomes.

Theory integration

Human capital theory

HCT focuses on how individuals' KSAOs propel productivity and performance (Becker, 2009; Schultz, 1961). It underscores the tangible value of human assets, showing how effectively leveraging employees' accumulated expertise can serve as a critical source of competitive advantage (Becker, 2009; Carlbäck et al., 2024; Nonaka & Von Krogh, 2009; Wicker & Breuer, 2013). Substantial empirical evidence confirms that higher KSAOs are positively associated with both individual and organizational performance (Wright & McMahan, 2011).

In the event of a managerial replacement, an organization not only incurs the immediate financial impact of replacement costs but also suffers the loss of the departing manager's human capital (Dess & Shaw, 2001; Eckardt et al., 2014). This disruption in continuity of knowledge and expertise creates ripple effects on the performance of both individual employees and the organization as a whole (Carlbäck et al., 2024). A well-orchestrated knowledge transfer process is crucial to minimize such adverse impacts (Nonaka, 2009; Polanyi, 1967). However, mitigating these consequences can be challenging due to the difficulty in articulating and transferring organization-specific tacit knowledge, which is implicit and difficult to verbalize (Nonaka, 2009; Shahzad & Soroya, 2024; Simonin, 1999).

Transferring this tacit knowledge between individuals is slow, costly, uncertain, and perhaps ultimately impossible (Grant, 1996; Kogut & Zander, 1992; Shahzad et al., 2024). Indeed, organizations may retain underperforming managers to avoid the potential greater negative impact on organizational performance caused by the loss of their tacit knowledge and the associated disruptions (Shahzad et al., 2024; Sliwka, 2007).

Previous HCT research consistently demonstrates a positive correlation between tacit knowledge and job performance (Lecuona & Reitzig, 2014; Leonard & Sensiper, 1998). Therefore, when a manager possessing such knowledge departs, organizations often experience a decline in performance due to the loss of the departing manager's KSAOs (Hancock et al., 2013; Shahzad & Soroya, 2024; Shaw, 2011). This deficit can result in operational inefficiencies, including suboptimal strategic decision-making. New managers, although skilled, may lack a nuanced understanding of the organization's specific context and culture and need time to acclimate (Kacmar et al., 2006). This adjustment period often yields decisions that do not fully align with established strategies, resulting in ineffective resource allocation and task assignment (Höffler & Sliwka, 2003), adversely affecting individual employee performance.

The role of a manager is not only supervisory but also a vital repository of organizational knowledge (Siambi, 2022). Transitions in management can have significant consequences beyond staffing changes, potentially weakening the fundamental elements that maintain performance standards (Hale et al., 2016; Hancock et al., 2013). In light of these factors, HCT emphasizes the importance of managerial expertise and experience within the organizational structure (Aman-Ullah et al., 2022). It acknowledges that replacing such key personnel creates a vulnerability in the organization's performance, primarily due to suboptimal task assignments by new managers and the resulting impact on employee effectiveness.

Signaling theory

ST is instrumental in elucidating the dynamics of communication between agents under conditions of information asymmetry (Connelly et al., 2025). Prior research highlights the versatility of signaling theory across a wide range of organizational contexts. Beyond classic applications in corporate finance (Ross, 1977) and labor markets (Spence, 1973), more recent studies demonstrate how organizations and individuals use signals in nuanced ways. For example, executives send signals about acquisition value through coordinated positive announcements (Gamache et al., 2019), while job candidates use LinkedIn profiles to signal unobservable traits to employers (Roulin & Levashina, 2019). CEO sociopolitical activism serves as a signal of authentic leadership to prospective employees (Appels, 2023). Female executive appointments during crises can signal organizational change or virtue signaling, as seen in "glass cliff" scenarios (Reinwald et al., 2023). Similarly, a high-performance sports career can indicate discipline, resilience, and teamwork to potential employers, especially in contexts where other candidate information is limited (Lindt et al., 2025). Firms employ certifications like "best places to work" to signal employment quality (Dineen & Allen, 2016), and even employee departures can serve as positive signals to outsiders about firm quality (Tan & Rider, 2017).

The essence of ST is to address information asymmetry in the organizational context (Spence, 2002), where managerial replacement often represents a problematic transition (Kavadis et al., 2022). When a new manager takes over, there is a lack of knowledge about the existing employees' KSAOs. This gap motivates employees to effectively signal their KSAOs to align with the new manager's expectations and secure favorable outcomes, such as increased recognition, opportunities for advancement, or job security (Connelly et al., 2011, 2025).

New managers experiment with task assignments and alter their strategic decision variables, such as team composition and roles, project assignments, organization policies, and operational strategies, as a signal that they are proactive and committed to organizational improvement (Choudhury et al., 2024; Fee et al., 2013; Kuvaas & Dysvik, 2010). They seek to identify the best performers—those team members whose contributions are integral to the organization's success. In this signaling dynamic, the manager's feedback acts as a signal (Gupta et al., 1999), providing employees with vital information on how their performance is perceived and what the new leadership values.

At the same time, employees (as "insiders") possess a deep understanding of their roles, strengths, and contributions to the organization—nuances that are not immediately perceptible to an incoming manager. To bridge this information gap, ST's theoretical exposition suggests that employees use strategic signaling (Connelly et al., 2011) *via* their performance to demonstrate their KSAOs and organization-specific value to the new manager. This multifaceted performance signal is often readily observable by the new manager, showing the individual's dedication and potential and verifying their KSAOs.[1]

Hypotheses development and conceptual framework

Managerial replacement and employee work quality

Building on the arguments in our HCT section, we note that managers often acquire critical, tacit knowledge about employee roles, skill sets, and unique organizational processes (Grant, 1996; Polanyi, 1967). When a manager is replaced, this accumulated knowledge is lost, and the organization experiences a disruption in its human capital base (Carlbäck et al., 2024; Eckardt et al., 2014; Nonaka & Von Krogh, 2009). Although the incoming manager may bring valuable expertise, they initially lack the departing manager's firm-specific, hard-to-articulate insights. This gap hinders immediate strategic decision-making, including the allocation of tasks and responsibilities (Hancock et al., 2013; Kacmar et al., 2006).

Because efficient task assignment hinges on knowing how employees' strengths map onto specific tasks, the new manager's limited familiarity can force employees into roles that are either ill-suited to their capabilities or prone to coordination errors (Hale et al., 2016; Höffler & Sliwka, 2003; Shahzad et al., 2024). Even modest mismatches can undermine the precision, accuracy, and collaboration necessary for high work quality (Simonin, 1999). As a result, during this transition period, employees struggle to maintain prior performance standards. Thus, driven by HCT's

emphasis on the pivotal role of tacit knowledge in sustaining productivity, we propose:

> **Hypothesis 1:** External managerial replacement decreases individual employee performance in terms of *work quality*.

Managerial replacement and employee work effort

ST highlights how information asymmetry drives individuals to send signals that convey their hidden qualities or capabilities to better-informed (or more powerful) parties (Connelly et al., 2011, 2025; Spence, 1973). In the context of managerial replacement, the new manager arrives without a clear understanding of how employees differ in skills, motivation, and overall competence (Kavadis et al., 2022). Lacking prior familiarity or performance histories with individual team members, the new manager naturally seeks observable indicators of which employees are most competent and committed (Fee et al., 2013).

From the employees' perspective, manager turnover presents a prime opportunity—and strong incentive—to signal their value. Increased work effort (e.g., greater diligence, stamina, or active engagement in tasks) is one of the most direct and unambiguous signals of talent and dedication (Berri & Krautmann, 2006; Connelly et al., 2011). By exerting heightened effort, employees position themselves favorably in the eyes of the new leadership, with the expectation of gaining or retaining advantages such as enhanced status, better assignments, or future career prospects. Hence, rooted in ST's emphasis on signaling under information asymmetry, we propose:

> **Hypothesis 2:** External managerial replacement increases individual employee performance in terms of *work effort*.

Although Hypotheses 1 and 2 may appear at first glance to predict opposing outcomes, with HCT predicting decreased performance (Hypothesis 1) and ST predicting increased performance (Hypothesis 2) following managerial replacement, a closer examination of the two theories reveals an opportunity for reconciliation. We argue that both theories examine different performance components: HCT frames performance in terms of *work quality*, while ST views it through the lens of *work effort*. When integrated, the theories offer a more robust portrait of employee performance.

Managerial replacement and internal promotion

Much of the disruption resulting from manager turnover stems from the new leader's lack of firm-specific human capital, coupled with employees' need to signal their capabilities to an "outsider" (Hancock et al., 2013;

Nonaka & Von Krogh, 2009; Spence, 1973). However, when the incoming manager is promoted internally rather than hired from outside the organization, both of these dynamics become less pronounced (Connelly et al., 2025). An internal successor already possesses tacit knowledge about the organization's culture, structures, and employees' skills, thereby mitigating inefficiencies in task assignment (DeOrtentiis et al., 2018; Li et al., 2020). Additionally, the new manager's familiarity with subordinates reduces information asymmetry, thereby lowering the need for employees to demonstrate or prove themselves through increased work effort (Connelly et al., 2025; Cooper et al., 2021).

As a result, the disruptions associated with a lack of managerial human capital (from an HCT perspective) and the incentive to signal (from an ST perspective) are greatly diminished. When an insider takes over, employees are neither assigned to ill-fitting roles nor driven to exhibit excessive labor input. Thus, drawing on both HCT and ST, we posit:

> **Hypothesis 3:** The negative effect of managerial replacement on *work quality* and the positive effect on *work effort* observed under external successors will be attenuated or absent when the new manager is an internal successor.

Conceptual framework

Figure 1 illustrates our conceptual framework, which integrates the theoretical perspectives and hypotheses developed in this study. On the left side, we represent the current state of the literature, which provides mixed and inconclusive findings regarding the consequences of managerial replacement on employee performance. Our contribution, shown in the center, lies in disentangling this ambiguity by theorizing that external managerial replacement simultaneously leads to decreased work quality (as suggested by HCT) and increased work effort (as indicated by ST). This dual effect provides a potential explanation for the inconsistent

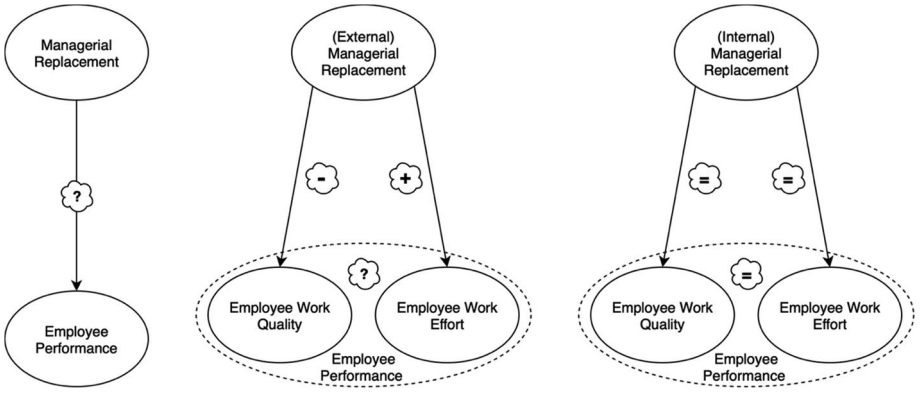

Figure 1. Conceptual framework.

overall performance effects reported in prior research. On the right side, we propose that when the replacement is internal, neither work quality nor work effort is significantly affected, as the new manager already possesses organizational knowledge and familiarity with subordinates, thereby minimizing both disruption and signaling dynamics.

Data and methods

Industry and data

In most industries, it is impossible to objectively compare individual employee performance across organizations because the relevant tasks differ substantially. In addition, most organizations operate in somewhat idiosyncratic environments, making meaningful comparisons practically impossible. Therefore, we use an industry where the work environment is highly standardized and individual performance is publicly available and objectively comparable: professional soccer. Specifically, we analyze the effects of manager replacements on individual employee performance in Germany's first division, the so-called "Bundesliga." In this paper, head coaches represent managers. Head coaches in professional sports and managers in other industries both work in a highly competitive environment, share similar traits (Dietl et al., 2011; Pieper et al., 2014), and have similar tasks (Nesseler et al., 2020). We are not the first to identify this parallel and analyze organizational phenomena through the lens of professional sports data (e.g., Bühren & Krabel, 2021; Day et al., 2012; Desai et al., 2016).[2]

Managerial replacement

We collect and study data on the head coaches across all Bundesliga teams, including instances of managerial changes during the season. Because contracts never end in-season and head coaches do not usually voluntarily quit during the season, the sample contains only observations with forced (i.e., team-initiated) mid-season manager replacements. Since most performance effects will dissipate after the new manager completes the first project (i.e., when the new manager can assess their employees' performance for the first time), we focus on the first match under the new coach. It is worth noting that soccer is an industry in which individual performance is available in very short intervals (usually from one match to the next). In other industries (for example, consulting or law), these intervals are often much longer. Consequently, the duration and ramifications of a new manager's first project can extend well beyond that found in soccer.

Dataset construction

This paper utilizes data from several publicly accessible sources: the official website of the German Bundesliga (www.bundesliga.de) for

performance and game data, as well as www.transfermarkt.de and www.kicker.de for contextual data, including substitutions, player, and manager information. Using this data, we constructed a unique panel dataset spanning seven seasons (2011/12 to 2017/18), comprising 1,284 players participating across 2,141 games and yielding over 43,000 player-game observations.[3]

We made three main adjustments to isolate the effects of managerial replacement on individual player performance. First, given that goalkeepers' physical performance differs substantially from that of field players, we excluded all goalkeepers from our analysis. Second, we removed some games because of missing or incorrect data on players' physical performance or actual playing time. Third, we limited the analysis to players with at least 30 min of playtime to reduce randomness in performance and align with the threshold for the official (*Kicker*) player ratings. The final sample comprises 44,998 player-game observations, representing a total of 1,075 players.

Dependent variables

Work quality

To test Hypothesis 1, we include one measure of individual employee work quality: players' overall pass accuracy, a core soccer skill. This measure has been previously linked to performance (e.g., Weimar & Wicker, 2017). It directly reflects a player's ability, concentration, precision, and task familiarity, all of which are crucial to team success. Pass accuracy heavily depends on a head coach's task allocation. For example, a player who excels at playing offensively and is skilled at creating scoring opportunities will perform worse as a defender than as a striker. Conversely, a player who is strong at tackling and well-trained defensively will perform worse as a striker than as a defender. Given that pass accuracy is causally related to players' talent, their head coach's strategy, and the actions of other actors (e.g., teammates, opponents, fans, referees), players cannot independently control it (Carling & Dupont, 2011). Thus, we can easily distinguish *PassRate* from other measures.

Work effort

To test Hypothesis 2, we include one measure of individual employee work effort: the distance players cover in meters (per minute) during a game. According to Berri and Krautmann (2006) and Lazear et al. (2015), this variable meets the criteria for effort measures. First, since many players are exceptional runners but not necessarily great soccer players, their running performance does not necessarily relate to their talent.

Second, because individual players choose their running effort, this effort is mainly independent of other actors (Carling & Dupont, 2011). Third, the measure is objectively measurable and comparable, making running a popular measure of effort in the literature (e.g., Schneemann & Deutscher, 2017; Watanabe et al., 2017; Weimar & Wicker, 2017). Distance covered by players reflects their physical effort and stamina, directly demonstrating their level of commitment on the field. Additionally, the positive influence of effort measures on a team's win probability (Weimar & Wicker, 2017) emphasizes their validity as performance measures and their contribution to overall team success.

Independent variable

Managerial replacement

To assess the effects of managerial replacement and test our hypotheses, we organize the data as a panel, observing multiple employees across multiple organizations at different points in time. *Managerial replacement* is coded as a binary variable equal to 1 if a new manager is appointed (whether internal or external), and 0 otherwise. This variable captures a team's first game under a new manager and serves as the basis for identifying the impact of managerial succession (Paola & Scoppa, 2012).

Internal successor

To distinguish between internally and externally appointed managers, we include a second binary variable, *Internal successor*, coded 1 if the new manager is promoted from within the organization (e.g., a former second-team coach or youth-stage manager) and 0 if the manager is externally appointed (Li et al., 2020). This variable enables the comparative analysis in Hypothesis 3. We do not code external successors as a separate variable; instead, they are captured implicitly when *Managerial replacement = 1* and *Internal successor = 0*. In this setup, external successors serve as the reference category in our analyses.

Control variables

To avoid omitted variable bias, we include a set of control variables that can be categorized into manager-specific, employee-specific, and industry-specific controls. Following prior research, we account for the manager's age[4] (Madura et al., 1996), nationality (German or expatriate) (Bebenroth & Froese, 2020), and two human capital resources of the manager within the industry (Ployhart et al., 2014), measured by experience as a professional and national team player. Since managers' strategic decisions are crucial (Gupta et al., 1999), we include two strategic variables: First, we provide information on the team's formation.[5] Second, we

include whether the manager changed the employee's role (position) under study.

Additionally, we include *team-season fixed effects* in our main models to ensure that they utilize the panel structure of the underlying data. Prior management literature recommends using both organization-level (team) fixed effects (Veliyath & Bishop, 1995) and season fixed effects (Pieper et al., 2014). Using fixed effects models excludes time-invariant employee characteristics, resulting in limited control variables on the employee side. Thus, we can only include potential age effects,[6] employee quality measured by each player's overall performance rating[7] and previous performance regarding the two performance components (work quality and work effort), the employee's role,[8] and tenure with the organization (Avolio et al., 1990; Brown, 1982).

We include four industry-specific controls in our analyses. First, we include whether a game takes place at home (Van Ours & Van Tuijl, 2016). Second, we include whether the teams competing in the game under study are local rivals (Weimar & Wicker, 2017). Third, we include the current game day to control for potential within-season effects, such as fatigue toward the end of the season (Pieper et al., 2014). Fourth, because the opponent's relative quality may affect performance, we calculate the difference in rank at the end of the last season between the team's rank under study and the opposing team's rank (Van Ours & Van Tuijl, 2016).

Table 1 provides an overview of the variables and an industry-specific description.

Estimation technique

We employ two-stage least squares (2SLS) instrumental variable regressions to test our hypotheses and address potential endogeneity issues. Our models could suffer from endogeneity for two reasons. The first reason is *omitted variable bias*: If we do not include essential variables in a model, the missing variables could bias the relationship between managerial replacement and employee performance. Therefore, we include three sets of control variables and team-season fixed effects. The second reason our models could suffer from endogeneity is *simultaneity*, i.e., reverse effects between employee performance measures and managerial replacement could exist. To address this endogeneity problem, we follow an instrumental variable approach.

To identify an appropriate instrument for the instrumental variable approach, we need a variable correlated with the endogenous variable (*Managerial replacement*) but not directly correlated with the respective dependent variables (*Work quality* and *Work effort*). Semmelroth (2022)

Table 1. Variable overview.

Variables	Description	References
Work quality	Pass rate: Share of successful passes relative to total passes in %	Weimar and Wicker (2017)
Work effort	Distance covered in-game per minute (in meters)	Schneemann and Deutscher (2017), Watanabe et al. (2017), Weimar and Wicker (2017)
Managerial replacement	The first game under a new head coach (1 = yes; 0 = no). This variable captures whether a managerial replacement occurred, regardless of whether the successor is internal or external.	Paola and Scoppa (2012)
Internal successor	The new head coach is promoted from within the organization (1 = yes; 0 = no). Used to compare internal vs. external replacements.	Li et al. (2020)
Instrument	"Points earned" - "points expected" by the team under study in the last four games	
Manager age	Head coach age in years	Madura et al. (1996)
Manager origin	The head coach is German (1 = yes)	Bebenroth and Froese (2020)
Manager quality 1	The head coach has been a former professional player (1 = yes)	Ployhart et al. (2014)
Manager quality 2	The head coach has been a former national team player (1 = yes)	Ployhart et al. (2014)
Manager strategy	The chosen formation by the head coach (offensive, balanced, defensive)	Gupta et al. (1999)
New tasks	The head coach assigns a new position to a player (1 = yes)	Gupta et al. (1999)
Employee age	Player age in years	Avolio et al. (1990)
Employee quality	Average *Kicker* magazine rating in a season (1 = best; 6 = worst)	Avolio et al. (1990), Brown (1982)
Employee role	Player position in a specific game (defender, midfielder, forward)	Avolio et al. (1990)
Employee tenure	Period a player has been playing for a team (in years)	Avolio et al. (1990), Brown (1982)
Season work quality	Average *work quality* within a season	Avolio et al. (1990), Brown (1982)
Season work effort	Average *work effort* within a season	Avolio et al. (1990), Brown (1982)
Home	The game is a home game for the team under study (1 = yes)	Van Ours and Van Tuijl (2016)
Rivals	Geographical distance between teams is < 50 kilometers (1 = yes)	Weimar and Wicker (2017)
Gameday	Current gameday	Pieper et al. (2014)
Rank difference	The previous season's difference in rank between the team under study and its opponent	Van Ours and Van Tuijl (2016)

Notes: Managerial replacement indicates whether a change of manager occurred. *Internal successor* indicates whether the incoming manager was promoted from within the organization (1 = internal; 0 = external). Thus, the default category, external successor, is captured by the baseline effect of *Managerial replacement* when *Internal successor* = 0.

finds that managerial replacement occurs mainly in organizations where short-term performance is worse than expected. Thus, we include an estimate of short-term performance compared to prior expectations. We combine a team's performance in the last four games, which we measure as "points earned" minus "points expected," with the team's implicit win, draw, and loss probabilities, which we calculate using betting odds.[9] Given the team's implicit win, draw, and loss probabilities, our *Instrument* shows how the team under study has performed compared to prior expectations in the last four games.[10]

Moreover, when conducting regression analysis on employee performance, it is important to consider the error term structure. These

disturbance terms are likely to be correlated within observations of the same employees. To account for this, we compute heteroscedasticity-robust (Huber/White) standard errors clustered at the employee level, allowing for arbitrary error term correlations between observations of the same employees.

This leads to the following models. First, we estimate the first-stage model as follows:

$$\begin{aligned} &Managerial\,replacement \\ &= \beta_0 + \beta_1 Instrument + controls + team - season\ fixed\ effects + \epsilon \end{aligned}$$

Second, we estimate the following two-stage models:

$$\begin{aligned} Work\,quality = \beta_0 + \beta_1 &Managerial\,replacement\left(Instrument\right) \\ &+ controls + team - season\ fixed\ effects + \epsilon \end{aligned}$$

$$\begin{aligned} \text{Work effort} = \beta_0 + \beta_1 &\text{Managerial replacement}\left(\text{Instrument}\right) \\ &+ \text{controls} + \text{team} - \text{season fixed effects} + \epsilon \end{aligned}$$

Instrument is a highly significant and negative predictor of the binary managerial replacement indicator (*Managerial replacement;* $p < 0.001$) within the first-stage regression (see Table 2). The negative sign of the predictor is consistent with our expectations because it indicates that when the "points earned" are lower than the "points expected," managerial replacement is more likely than in the opposite case. In addition, the respective F-statistics for *Instrument* exceed the suggested threshold of 10 (Stock et al., 2002) for the vast majority of the regressions in our tables (see Section 4), demonstrating that the instrument is valid (Andrews et al., 2019). As a result, our method

Table 2. First-stage regression results.

Variables	Managerial replacement
Instrument	−0.006***
	(0.000)
Controls	×
Team-season FE	×
Observations	30,725
F-statistic	11.76
R^2	0.0674

Notes: Standard errors, in parentheses, are robust to heteroscedasticity and clustered on players; Dependent variable: *Managerial replacement*.
*$p < 0.1$.
**$p < 0.05$.
***$p < 0.01$.

overcomes the endogeneity problem and enables us to examine our hypotheses.

Results

Descriptive results

This section presents and discusses the descriptive results of our analysis. Table 3 presents the descriptive statistics of our data with a sample size of $N = 44{,}998$ for all variables.

The sample contains 89 managers and 76 instances of managerial replacement across 22 different organizations. Fifty-seven percent of successors come from within the organization. While most replacements occur in the first half of the season, managerial replacements across the league remain relatively constant from season to season. On average, managerial replacements occur 10.9 times among the 18 teams per season, with a maximum of 13 replacements in the 2011/12 and 2016/17 seasons.

The managers in our sample are on average 46 years old. Sixty-nine percent are of German nationality, 66% were professional players before becoming coaches, and 36% had played on the national teams of their

Table 3. Descriptive statistics ($N = 44{,}998$).

Variables	Mean	SD	Min	Max
Work quality	76.824	11.441	0	100
Work effort	122.039	10.062	80.556	192.807
Managerial replacement	0.017		0	1
Instrument	−0.761	2.866	−7.91	8.749
Internal successor	0.01		0	1
Manager age	46.424	7.019	28	73
Manager origin	0.692		0	1
Manager quality 1	0.658		0	1
Manager quality 2	0.361		0	1
Manager strategy-offensive	0.082		0	1
Manager strategy-balanced	0.885		0	1
Manager strategy-defensive	0.033		0	1
New tasks	0.082		0	1
Employee age	26.059	3.697	17.003	39.633
Employee quality	3.597	0.408	2	6
Employee role-defender	0.383		0	1
Employee role-midfielder	0.324		0	1
Employee role-forward	0.293		0	1
Employee tenure	3.15	3.398	0.003	21.901
Season work quality	76.934	7.489	50	100
Season work effort	121.796	8.38	95.568	154.111
Home	0.498		0	1
Rivals	0.037		0	1
Gameday	17.542	9.805	1	34
Rank difference	−0.001	7.706	−17	17

Notes: Managerial replacement indicates whether a change of manager occurred. *Internal successor* indicates whether the incoming manager was promoted from within the organization (1 = internal; 0 = external). Thus, the default category, external successor, is captured by the baseline effect of *Managerial replacement* when *Internal successor* = 0.

respective countries. In most games (89%), managers choose a balanced strategy, while they choose an offensive strategy in 8% of games and a defensive strategy in 3%. On average, managers assign new tasks (new positions) to employees every 12 games.

The employees in our sample are on average 26 years old and have an average performance rating of 3.6 out of 6. Their positions are distributed evenly overall, with slightly more defenders than midfielders and slightly more midfielders than forwards. The employees in the sample have been working in their organizations for an average of just over three years. They demonstrate high work quality, with players completing approximately 77% of their passes on average. Moreover, employees exhibit considerable work effort by covering 122 meters per minute on average.

Regarding industry-specific variables, players play 50% of their games at home and 50% away. Additionally, just under 4% of games are played against rival teams. The league consists of 18 teams, resulting in 34 game days during which each team plays twice against every other team, once at home and once away. Finally, the difference in rank between any two teams cannot exceed 17.

Analysis

Table 4 reports the results of our 2SLS regressions. The first section (columns 1, 2, and 3) shows the 2SLS estimates for testing Hypothesis 1, thereby revealing the relationship between managerial replacement and *Work quality*. The second section (columns 4, 5, and 6) shows the 2SLS estimates for testing Hypothesis 2, thereby revealing the relationship between managerial replacement and *Work effort*. Both sections follow the same structure: First, we present the base model using only our primary independent variable, *Instrument (Managerial replacement)*, without any controls or fixed effects ("Model 1"). Second, we present a model that includes controls but still lacks fixed effects ("Model 2"). Finally, we present our main model, including both controls and team-season fixed effects ("Model 3").

Overall, the results indicate that managerial replacement has a negative impact on employees' work quality and a positive effect on their work effort. In the first section, all three models demonstrate a significant negative effect on employee work quality following managerial replacement. The coefficients of the second and third models indicate a decrease of approximately 30%. These results support Hypothesis 1. In the second section, all three models show a significant positive effect on employee work effort following managerial replacement. Our main model's

Table 4. Second-stage regression results.

	Work quality			Work effort		
Variables	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Managerial replacement	−85.230***	−32.600***	−33.711***	19.746**	13.836***	32.853***
	(10.183)	(6.639)	(8.209)	(9.221)	(4.331)	(5.504)
Internal successor		30.708***	31.810***		−13.813***	−32.447***
		(6.568)	(8.083)		(4.290)	(5.433)
Manager age		−0.438***	−0.505***		−0.047	−0.148
		(0.065)	(0.144)		(0.049)	(0.120)
Manager age^2		0.004***	0.005***		0.000	0.001
		(0.001)	(0.001)		(0.000)	(0.001)
Manager origin		−0.067	−0.322		−0.051	−0.874***
		(0.156)	(0.440)		(0.106)	(0.336)
Manager quality 1		0.438***	0.714**		−0.096	0.292
		(0.124)	(0.326)		(0.100)	(0.286)
Manager quality 2		0.126	0.434		0.123	−0.599*
		(0.147)	(0.355)		(0.107)	(0.307)
Manager strategy-bal		0.374**	1.130***		0.587***	0.399**
		(0.191)	(0.270)		(0.139)	(0.203)
Manager strategy-def		−1.106***	−0.855**		0.935***	1.091***
		(0.326)	(0.383)		(0.208)	(0.242)
New tasks		−0.213	−0.226		0.545***	0.466***
		(0.178)	(0.181)		(0.126)	(0.135)
Employee age		−0.119	−0.063		−0.274**	−0.253**
		(0.149)	(0.149)		(0.119)	(0.116)
Employee age^2		0.002	0.001		0.004*	0.004*
		(0.003)	(0.003)		(0.002)	(0.002)
Employee quality		−0.009	−0.229		0.229**	0.815***
		(0.156)	(0.171)		(0.112)	(0.128)
Employee role-mid		−0.270**	−0.259**		2.446***	2.653***
		(0.106)	(0.106)		(0.166)	(0.177)
Employee role-for		−0.885***	−1.198***		1.258***	1.327***
		(0.134)	(0.148)		(0.119)	(0.124)
Employee tenure		−0.005	−0.006		0.011	0.006
		(0.013)	(0.013)		(0.011)	(0.011)
Season average		0.848***	0.798***		0.890***	0.876***
		(0.010)	(0.014)		(0.007)	(0.008)
Home		0.423***	0.416***		0.069	0.165**
		(0.101)	(0.103)		(0.067)	(0.071)
Rivals		−0.420	−0.363		−0.329**	−0.403**
		(0.257)	(0.264)		(0.159)	(0.173)
Gameday		−0.010**	−0.011**		−0.003	−0.001
		(0.005)	(0.005)		(0.004)	(0.004)
Difference in rank		−0.060***	−0.083***		0.038***	0.081***
		(0.006)	(0.009)		(0.004)	(0.007)
Constant	78.304***	23.881***	30.381***	121.690***	16.459***	19.234***
	(0.353)	(2.807)	(4.694)	(0.404)	(2.104)	(3.590)
Observations	44,702	43,799	43,799	44,702	43,799	43,799
F-statistic	70.06	24.11	16.86	4.59	10.21	35.63

Notes: Standard errors, in parentheses, are robust to heteroscedasticity and clustered on players. Dependent variables: i) Pass rate; ii) Distance. Season average: i) Pass rate; ii) Distance.

*$p < 0.1$.

**$p < 0.05$.

***$p < 0.01$. *Managerial replacement* indicates whether a change of manager occurred. *Internal successor* indicates whether the incoming manager was promoted from within the organization (1 = internal; 0 = external). Thus, the default category, external successor, is captured by the baseline effect of *Managerial replacement* when *Internal successor* = 0.

coefficients indicate an approximately 33-meter increase per minute in distance covered. These results support Hypothesis 2.[11]

Because the external successor serves as the reference category in our models, the baseline effects of *Managerial replacement* reported above

capture the impact of hiring a new manager from outside the organization. The variable *Internal successor* produces intriguing results. Introducing this variable into the models shows how the effects of external successors differ from those of internal ones. Specifically, the resulting 32% increase in work quality almost completely offsets the adverse effects observed under external successors, and the 32-meter-per-minute decrease in work effort nearly cancels out the positive effects of external successors. These results, showing reversals of 94.4% and 98.8% of the external successor effects, provide strong evidence supporting Hypothesis 3. This pattern is consistent with our theoretical discussion: when the new manager is already familiar with the employees, they possess the necessary organization-specific KSAOs for effective task assignment, and employees no longer need to signal their value through heightened effort.

Turning to the manager-related control variables, we find that various controls have an impact on employee performance. For the first section, we find that work quality declines as a manager's age increases, and the significant positive coefficient of *Manager age*^{2} indicates a nonlinear relationship. The work quality of employees does not appear to be influenced by their German nationality or whether a manager has been a national team player. However, having been a professional soccer player previously positively impacts work quality, probably because it demonstrates strong industry-specific KSAOs that a manager possesses. Moreover, selecting a balanced formation results in higher quality work than defensive or offensive alternatives. This makes intuitive sense because a balanced approach involves the least risk in terms of passes.[12] For the second section, we do not find any impact of managers' age on performance in terms of work effort. However, we find a negative relationship between employees' work effort and managers with German nationality. Furthermore, evidence suggests that selecting a balanced or defensive formation leads to employees putting more effort into their work than selecting an offensive formation.

When focusing on the *New tasks* variable, the expected effects are found. Previous management research suggests that new managers may attempt to introduce their style into an organization, thus resulting in role changes (Fee et al., 2013). Assigning a new role to an employee often leads to a decrease in work quality because the employee is less familiar with the new responsibilities. It also leads to increased work effort because the employee wants to signal their skills for the new role. For our main models, the evidence is significant only for the increase in work effort, not for the decrease in work quality. Both effects are significant in our robustness check using an OLS regression (see Section 4.3).

Turning to employee-related controls, we find that various factors affect employee performance. In the first section, we find that age, tenure

at the current organization, and overall performance of an employee do not affect work quality. However, defensive "risk-averse" roles result in higher work quality than forward "risk-seeking" roles, with midfield "risk-neutral" roles unsurprisingly producing work quality that falls between these endpoints. As anticipated, an employee's average work quality for the season is highly correlated with their work quality in a specific game. In the second section, we find a negative correlation between the age of a player and their work effort. Additionally, there is strong evidence indicating a relationship between overall performance in a season and work effort. Players in midfield roles exhibit the highest work effort, followed by those in forward roles. Like work quality, average work effort during a season is highly correlated with work effort in a specific game.

Turning to industry-specific controls, we find that various controls affect employee performance. The impact of the variable "*Home*" on work quality and work effort is positive (the "home-advantage effect"), a common phenomenon in the industry-specific literature (e.g., Tena & Forrest, 2007). Playing against rivals negatively affects work effort, likely because these games involve more fouls and interruptions, reducing the distance covered. Work quality and effort tend to decrease as the season progresses, likely due to player fatigue. Finally, the relative strength of the team being studied (*Difference in rank*) significantly affects both dependent variables. Against a stronger opponent, a team usually has the ball less often and thus must run more; conversely, when the team has possession, the stronger opponent presses immediately, forcing hurried passing. As a result, the effect of *Difference in rank* is negative for work quality and positive for work effort.

Additional robustness checks that further validate our findings are provided in the Online Appendix.

Discussion

Our empirical analysis supports the effects hypothesized in our theory integration. Specifically, we find that managerial replacement has a significant impact on employee performance, both in terms of work quality and work effort. Moreover, we provide evidence that choosing an internal managerial replacement can offset these performance effects. In addition, we find that new managers initiate changes in employees' roles and tasks, and that these changes have a negative impact on work quality but a positive impact on work effort.

Theoretical implications

This study offers several important theoretical contributions that enrich our understanding of managerial succession, human resource management, and employee performance. Our findings advance HCT by providing micro-level evidence of the disruption of tacit knowledge that occurs when managers are replaced. HCT posits that managers embody firm-specific KSAOs whose loss can undermine productivity (Grant, 1996; Nonaka, 2009; Polanyi, 1967). Prior empirical tests, however, have typically examined only aggregate organizational performance (Kesner & Dalton, 1994; Mikkelson & Partch, 1997), leaving the individual work-quality mechanism unobserved. By exploiting a panel of employee-level quality measures around managerial transitions, we document a decline in employee work quality following replacement. This finding provides a direct test of HCT's core assumption at the individual level, demonstrating how leadership transitions can generate performance disruptions that may be obscured in firm-level analyses.

Moreover, we extend ST into the underexplored context of internal organizational change, specifically managerial succession. While prior applications have primarily focused on external, market-facing signals—such as IPO pricing, executive compensation, or certification labels (Dineen & Allen, 2016; Ross, 1977)—our study demonstrates that internal leadership transitions also trigger signaling dynamics. Specifically, we show that employees respond to the arrival of a new manager by increasing their discretionary work effort—a costly and observable signal of competence, motivation, and value to the organization (Berri & Krautmann, 2006; Connelly et al., 2025). In doing so, we expand the theoretical reach of ST, illustrating how leadership changes within organizations act as internal catalysts that reshape employee behavior in the absence of explicit contractual changes or incentives.

Furthermore, we offer a novel theoretical integration by combining HCT and ST to explain the dual impact of managerial replacement on employee performance. These theories are often applied in isolation—and occasionally treated as theoretically incompatible—yet we show they illuminate different dimensions of the same phenomenon. HCT emphasizes the knowledge disruption resulting from the loss of a manager's firm-specific expertise, which manifests as a decline in employees' work quality. ST, by contrast, focuses on employees' strategic behavior under uncertainty, which leads to increased work effort. By disentangling performance into its two key components—quality and effort—we demonstrate that these frameworks are not contradictory but complementary. Our theory integration thus enhances understanding of the mechanisms and results of managerial replacement, and this study provides empirical

evidence for a relevant real-world phenomenon that previously lacked sufficient empirical investigation (Höffler & Sliwka, 2003).

In addition, we push succession research forward by shifting the analytical lens from the organization to the individual employee. While most prior studies have focused on firm-level outcomes of leadership transitions—with mixed findings ranging from positive (Denis & Denis, 1995; Huson et al., 2004) to negative (Hancock et al., 2013; Hill, 2009) and null effects (Kesner & Dalton, 1994; Mikkelson & Partch, 1997)—our study leverages granular, employee-level performance data to uncover the mechanisms driving these aggregate patterns. By separately analyzing work quality and work effort, we find that managerial replacement induces a simultaneous decline in quality and an increase in effort. This disaggregation highlights the countervailing behavioral effects that are obscured in macro-level analyses, helping to reconcile the contradictory findings of prior work. Our micro-level approach thus offers a theoretical bridge between individual responses and organizational outcomes in the context of leadership change.

Finally, we contribute to the literature on internal managerial succession by demonstrating how the origin of leadership transitions moderates employee responses. While prior research has emphasized the advantages of internal promotion for knowledge continuity and organizational stability (e.g., Bidwell, 2011; Keller et al., 2021; Schepker et al., 2017), we provide empirical evidence that internal replacement also dampens both the quality loss predicted by HCT and the signaling-driven effort spike predicted by ST. In other words, internally promoted managers preserve firm-specific knowledge while also reducing the perceived information asymmetry that triggers signaling behavior among employees. This finding refines existing theory by showing that internal succession not only mitigates productivity disruptions but also stabilizes performance-related behaviors, fostering a smoother transition process.

Managerial implications

Poor organizational performance frequently triggers managerial replacement, making the decision to replace managers under such circumstances both critical and complex. From both our theoretical integration and our empirical analysis, we conclude that when considering work quality and work effort, managerial replacement might make sense for organizations that view reduced work quality as less crucial than enhanced work effort (i.e., when the anticipated negative effects of the loss of tacit knowledge are smaller than the anticipated positive effects of employees exerting more effort to signal their skills).

Our findings highlight critical considerations for organizations contemplating manager replacement. First, assessing whether the manager's performance problems stem from a lack of support or training (McNamara et al., 2012) can help determine whether targeted improvement efforts or replacement are more appropriate. Second, if organization-specific tacit knowledge is critical to success, organizations might reconsider replacement or invest in developing this knowledge for both the departing manager and their successor (Shahzad & Soroya, 2024). Finally, understanding employee motivation under current management is essential. If engagement is strong (Bader et al., 2023; Kuvaas & Dysvik, 2010), replacement may be unnecessary, while declining effort could signal the need for new leadership. Thoughtful consideration of these factors can make leadership transitions more strategic and effective across industries.

Organizations must also consider the costs of managerial replacement. For example, following a corporate takeover, not only the existing CEO but also other executives on the management team are typically replaced (Krug & Aguilera, 2004), resulting in significant expenses related to severance packages, recruitment efforts, and potential disruptions to organizational operations. These transitions involve substantial financial investments and organizational adjustments to accommodate new leadership structures and priorities.

In addition, examining whether a new manager was already part of the organization before the managerial replacement yields further implications. A new internal manager already knows the employees, philosophy, infrastructure, and other organization-specific (tacit) structures and components. Therefore, an internal successor is more familiar with the team than a new external manager (Cooper et al., 2021), meaning the right internal successor might offset the negative effects of managerial replacement. The key for organizations is finding a new internal manager who can efficiently allocate tasks and roles to the employees while maintaining sufficient distance from the team to motivate individuals effectively. With such a successor, an organization can avoid the negative consequences of managerial replacement without diminishing the positive outcomes.

Previous studies argue for the possibility of successful internal promotion by demonstrating that it can deliver better performance and lower costs simultaneously (Bidwell, 2011; Keller et al., 2021; Schepker et al., 2017). For example, former Real Madrid C.F. legend Zinedine Zidane epitomizes a successful example of internal promotion in soccer. Following his tenure as second-team manager and assistant to the first-team manager, Real Madrid C.F. appointed Zidane as first-team manager in 2016. Zidane was enormously successful, winning 11 titles. With his internal knowledge, he allocated tasks efficiently from the very first game (a 5-0 victory), and his legendary status allowed him to motivate employees

effectively. Similarly, Tim Cook's ascent to the CEO position at Apple following Steve Jobs' departure exemplifies a compelling example of successful internal succession in the corporate world. Cook, who had served as Apple's Chief Operating Officer, was intimately familiar with the company's operations and culture. Upon assuming the CEO role in August 2011, Cook adeptly navigated the challenges of maintaining Apple's innovation and market dominance. Under his leadership, Apple continued to thrive, with profits doubling and market value increasing five-fold.

Additionally, recruiting costs are lower when hiring from within, and salaries of internally promoted managers are lower than those of external hires (Murphy & Zábojník, 2004). Therefore, internal promotion is sometimes the best solution for an underperforming organization.

Limitations and future research

This paper has several limitations. There are multiple reasons why organizations resort to managerial replacement—for example, to signal an organizational change of direction (Wiersema & Moliterno, 2006). In these instances, they use the manager as a scapegoat, even though the manager may not be performing poorly at all. Future research could aim to identify the conditions under which this strategic approach is effective and what constitutes its effectiveness in these scenarios.

The issue of the "problem of anticipation of changes" is significant in studying the effects of managerial succession (Paola & Scoppa, 2012). More precisely, statistical effects on performance following managerial changes might be statistical artifacts rather than a causal relationship between managerial transitions and team or individual changes in behavior. Statisticians refer to this issue as "regression to the mean" (Barnett et al., 2005) or a particular type of "Ashenfelter's dip" (Ashenfelter, 1978). To address this limitation, we included a robustness check (see Online Appendix) where we analyzed only employees who worked on the entire project (i.e., the match). As managers typically replace the worst-performing employees or exclude them from the next crucial project, the remaining employees in our sample are less likely to experience regression to the mean.

That said, like any empirical analysis, ours may still suffer from potential biases arising from unobserved confounding variables. Despite extensive controls and an instrumental variable strategy, we cannot rule out the possibility that other unmeasured factors, such as locker room dynamics, interpersonal conflicts, or psychological reactions to managerial changes, may influence both the decision to replace a manager and subsequent employee performance. Future research might address this by

incorporating richer datasets, perhaps including qualitative data or survey-based measures, to capture such latent factors.

Future research could also aim to develop additional measures to capture work quality beyond the one we are currently using. Such measures would demonstrate the manager's task allocation efficiency, e.g., by more closely measuring an individual's contribution to overall performance. Moreover, this research could investigate the circumstances that lead to different manifestations of the two distinct performance effects, thereby providing more precise guidance for organizations. Finally, scholars could more closely examine the mechanisms that internal succession sets in motion and the conditions under which organizations should prefer internal promotion to external hiring—and vice versa.

Our results and contributions demonstrate the potential of sports data in management research. With such data, researchers can find answers to questions that were previously unanswerable. The key to working with sports data is being aware of the extent to which the results are generalizable, thereby avoiding overextending them (Fonti et al., 2023). For example, given that the sports industry is highly structured, competitive, and transparent, yet also imposes industry-specific constraints, scholars using sports data must exercise caution when generalizing their results. For instance, the relative ease with which players can be replaced or repositioned may not generalize to less flexible labor markets. As a result, our findings are more applicable to highly competitive industries that allow for relatively easy transitioning of employees into new roles than to sectors with more rigid roles or longer project cycles. Future research should extend our approach to other organizational contexts to assess the broader applicability of the observed mechanisms and effects.

Conclusion

By investigating how managerial replacement affects employee performance, our study advances the literature on managerial change by providing a new individual-level perspective and offering a potential explanation for the inconsistent findings at the organizational level in management research. We utilize the sports industry as a unique setting to address data scarcity in other sectors and empirically examine individual employee performance following managerial transitions. By integrating HCT and ST and supporting the derived predictions with empirical analyses, we offer a theoretical explanation and empirical evidence that managerial turnover has a dual effect on performance, impacting both employees' work quality and work effort. In doing so, our study illuminates various pathways by which managerial replacement affects employee

performance and how it can serve as a fruitful context for organizational research and practitioners.

Notes

1. Strategic signaling thus becomes a two-way street, with both managers and employees actively engaged in a dynamic exchange (Srivastava, 2001).
2. For a comprehensive review of management research using sports data, see Fonti et al. (2023).
3. We did not include the most recent seasons due to the coronavirus pandemic.
4. This variable serves as a proxy for a manager's experience and tenure within the industry (Veliyath & Bishop, 1995). Such individuals usually invest their entire careers in the sport. The transition from a player to a coach is a complex and often non-linear process. It involves a gradual shift that may include intermediate roles such as team captaincy, coaching at junior levels, or serving in assistant or associate coaching roles.
5. The dataset contains 25 distinct instances of this variable. This categorization aims to capture the various strategies employed by each coach. These have been classified into three categories: offensive (with only three defenders), balanced (with four defenders), and defensive (with five defenders).
6. This variable serves as a proxy for a player's experience and tenure within the industry. It reflects the career trajectory of professional soccer players who often dedicate their entire lives to the sport.
7. As measured by the *Kicker* rating, an overall rating for each player for each game as determined by soccer experts and published by Germany's most respected soccer magazine.
8. The dataset records player positional data for each match. Since positional assignments may vary between games, this variable is dynamic and includes 14 unique positions. We consolidate them into three primary categories: defenders, midfielders, and forwards. This categorization is justified because positions within each category exhibit similar characteristics and operational demands, aligning with conventional classifications in team sports management.
9. We draw betting odds from the website bet365.com and calculate the implicit probabilities as outlined in Deutscher et al. (2018). Moreover, betting odds contain a considerable amount of information, thereby further reducing the likelihood of omitted variable bias.
10. We calculate the instrument as the difference between the expected short-term performance of the team under study and the team's actual performance, thereby examining whether performance is worse than expected. For example, if FC Bayern Munich loses to weaker opponents, the team performs worse than expected, and the risk of head coach dismissal increases. Conversely, if a weaker team loses to FC Bayern Munich, the team performs as expected, and the risk of head coach dismissal does not increase.
11. Moreover, when we depart from our initial approach of using robust standard errors clustered on employees and instead estimate our models with robust standard errors or robust standard errors clustered by organizations, the significance of the results remains unchanged (see Online Appendix).

12. When a team plays defensively, it relies on counterattacks, which often result in inaccurate passes. Conversely, when a team plays offensively, they tend to attempt risky passes in order to quickly advance towards the goal.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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