The Spillover Effect of Adopting a Formalized Culture-fit Measurement System in the Employee Selection Process

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Abstract

Many organizations rely on employee selection as a management control system to diffuse organizational culture. While prior literature has focused on the role of an employee selection system in selecting new employees who are more aligned with organizational values, whether and how such system would influence existing employees remain scantly studied. Using proprietary data, I investigate the spillover effect of implementing a culture-fit measurement system in the employee selection process on existing employees' performance. I exploit the staggered feature of the adoption of the system and find that the culture-fit measurement system has a positive effect on existing employees' performance, especially when the percent of new employees selected through that system reaches a critical mass. The positive spillover effect is stronger 1) when existing employees are more likely to learn from new employees selected through the system, and 2) when existing employees face less culture clash. Taken together, this study implies that an employee selection system that sorts potential employees based on their value alignment may also exert spillover effects on existing employees' performance. Such spillover effects may provide a novel perspective on how to diffuse a desirable organizational culture more efficiently.

Keywords: spillover effect; management control system; employee selection; organizational culture

I. INTRODUCTION

The importance of organizational culture is highlighted in prior accounting, economics, and management literatures (e.g., Gibbons and Henderson 2013; Graham, Grennan, Harvey and Rajgopal 2022). In an effort to diffuse a desirable organizational culture, many organizations use employee selection as a management control system for two purposes. First, employee selection might help the company find potential employees who are inherently aligned with the espoused organizational values. Second, the arrival of new employees who are aligned with organizational values may spread the desired values and norms to existing employees.[1] Prior literature has provided evidence for the first purpose that employee selection can be an effective way to increase new employees' alignment with organizational values (Chatman 1989; Campbell 2012; Merchant and Van der Stede 2007; Cai 2022). However, little is known about how employee selection that aims to find aligned new employees can affect existing employees. This paper contributes by studying the spillover effect of implementing a formal culture-fit measurement system in the employee selection process on existing employees' performance.[2]

Ex ante, the performance effect of the culture-fit measurement system on existing employees is unclear. On the one hand, implementing the culture-fit measurement system might have a positive spillover effect on existing employees' performance through the learning channel. Existing employees may learn from newly hired employees actively through social

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[1] Existing employees refer to the employees who were selected before the adoption of certain designed employee selection system.

[2] A formal culture-fit measurement system in the employee selection process refers to a management control system that systematically measures and selects applicants who are aligned with the organizational values. In this study, the term "culture-fit" refers to the alignment between employees' values and the organizational values that the corporate leaders want to instill in the organization.

learning, or passively through peer pressure. [3] According to the social learning theory, behaviors can be learned by observation and imitation (Bandura and Walters 1977). Existing employees who observe the work manners or code of conduct of new employees may imitate them and thus improve their own work manners. In a more passive manner, the arrival of new employees who are more aligned with organizational values may also impose peer pressure on existing employees through implicit group norms, thus inducing existing employees to learn about new values and beliefs (Kandel and Lazear 1992; Barron and Gjerde 1997; Mohnen, Pokorny and Sliwka 2008).

On the other hand, adopting the culture-fit measurement system may not always exert a positive spillover effect on existing employees' performance due to the potential culture clash effect. When existing employees are not priorly aligned with the espoused organizational values, the implementation of the culture-fit measurement system might trigger a culture-clash effect because existing employees do not share the same values with newly hired employees (Van den Steen 2010). The culture clash resulting from differences in values may reduce existing employees' motivations, efforts, and hence performance (Van den Steen 2010).

To examine this research question, I use proprietary data from a highly decentralized company that seeks to foster a consistent organizational culture across its dispersed offices. Specifically, the company started to implement a formal culture-fit measurement system in its employee selection process in 2012 to hire potential employees who are aligned with the espoused organizational values, and it hoped that these new employees would spread the

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[3] It is also possible that new employees may learn from existing employees due to similar reasons, and their values gradually converge during the process of integration. This does not conflict with the proposed learning channel.

desired values and norms to existing employees.[4] The formal culture-fit measurement system consists of multiple-choice questions about how applicants would behave under hypothetical scenarios. My empirical identification strategy builds upon the company's staggered adoption of the culture-fit measurement system across its offices. The variation in the timing of the adoptions within the company is plausibly exogenous due to unexpected operational reasons. This research setting enables me to examine the spillover effect of implementing a formal culture-fit measurement system in the employee selection process on existing employees' performance.

I find that, on average, the implementation of the culture-fit measurement system alone has a positive but insignificant impact on existing employees' performance. However, when the percentage of new employees selected through this system in the office reaches a critical mass, existing employees' performances start to improve. This implies that the spillover effect of the culture-fit measurement system may be cumulative and may hinge on the degree of the implementation.

I conduct additional tests to examine how learning and culture clash may affect the spillover effect of the culture-fit measurement system on existing employees' performance. First, the learning channel has a testable implication. If learning does exist, the spillover effect should be stronger when the new employees selected through the system are more influential or when the existing employees are more likely to be influenced. I find that the system increases

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[4] The company could also choose to directly train existing employees about the organizational values and norms. However, the company has over twenty thousand employees in over 200 offices across the country, therefore requiring a significant amount of time and monetary cost if the company were to provide training for all individual employees. As a result, the company decides to shape culture through the employee selection process by highlighting value alignment, hoping that the system could also have a positive spillover effect on existing employees.

existing employees' performance when the office size is smaller, when the existing employees have shorter tenure, and when there are more new senior managers selected through the system in the office, all of which are related to an existing employee's likelihood of being influenced by others. A smaller office size implies that new employees selected through the system and existing employees are more closely connected and have more opportunities to work together. Having a shorter tenure implies that the existing employee is less experienced and more likely to be shaped by others. Having more senior managers selected through the system in the office implies that the new employees selected through the system are more influential. These findings suggest that implementing the culture-fit measurement system may increase existing employees' performance if they learn from new employees selected through the system about their values and behaviors. Second, in terms of the culture-clash effect, I find that the system benefits existing employees' performance more when they are already more aligned with the espoused organizational values. This suggests that culture clash might partially reduce the positive spillover effect.

In addition, I find that the implementation of the culture-fit measurement system does not have a significant effect on existing employees' departure. This helps to mitigate the concern that the net positive spillover effect of the culture-fit measurement system on existing employees' performance is driven by the sorting-out effect rather than the learning effect.

This study has the following contributions. First, most prior literature on employee selection systems focuses on their *direct effect* on the newly-hired employees (Campbell 2012; Cai 2022). For example, Campbell (2012) finds that new employees who were selected through referral perform significantly better than those who were selected through other channels. Cai

(2022) finds that new employees selected through a formalized culture-fit measurement system perform significantly better than new employees who were not selected through that system. To the best of my knowledge, this study is the first to examine the *spillover effect* of employee selection systems, and it suggests that an employee selection system meant to select new employees who are aligned with organizational values may further exert influences on existing employees who were not selected through this system.

Second, this paper extends the literature on organizational learning. The importance of learning to organizational success is widely documented in existing literature (Herriott, Levinthal and March 1985). Most prior studies focus on the learning of skills from past experiences (e.g., Levitt, List and Syverson 2013). In terms of interpersonal learning, Manz and Sims (1981) find that vicarious learning can alter organizational behavior through modeling. This study contributes by suggesting that employees' values and behaviors may be influenced through their learning from other employees who are more aligned with organizational values.

Finally, this study also contributes to how to disseminate a desirable organizational culture in practice. Nature and nurture are two crucial factors in shaping organizational culture. However, the high cost of nurturing employees through training is widely acknowledged in industry. According to the 2020 Training Industry Report, the average training expenditures for large companies (10,000 or more employees) in the US is $22 million in 2020.[5,6] Therefore,

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[5] The report was based on a survey conducted by Training Magazine on 130,281 companies in the Dun & Bradstreet database. Only U.S.-based corporations and educational institutions with 100 or more employees were included in the analysis. Source: https://trainingmag.com/2020-training-industry-report/

[6] Employee training also has multiple hidden costs, such as premature employee turnover cost, and the opportunity cost of the training hours that would otherwise be employees' productive hours. Moreover, implementing a successful employee training program requires complex procedures, such as identifying the needs

although training can be beneficial for both the employees and the company, it may not be the most efficient approach to shaping organizational culture, especially when the company has a large group of employees scattered across geographically dispersed offices. In this sense, shaping organizational culture through employee selection might be a more feasible approach. A common limitation of this approach is that the employee selection system that sorts on applicants' value alignment can only select new employees who are aligned with organizational values but cannot alter existing employees' value alignment. However, my findings imply that adopting a formal culture-fit measurement system in the employee selection process may also influence existing employees, thus more efficiently contributing to a more desirable organizational culture.

The rest of the paper is organized as follows. Section II reviews relevant literature and develops hypotheses. Section III describes the research setting and data. Section IV presents the empirical design and results. Section V discusses additional tests. Section VI concludes.

II. HYPOTHESIS DEVELOPMENT

2.1 Employee Selection as a Control System

Prior literature in accounting and economics suggests that selecting employees who are intrinsically aligned with organizational objectives is an effective way of control when it is difficult to contract on output or results (Akerlof and Kranton 2000, 2005; Prendergast 2008). The mechanism of employee selection as a management control system builds on employees' intrinsic motivation to control themselves (Merchant and Van der Stede 2007). Existing

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for training, setting the training objectives, creating a training plan, offering formal training, adding coaching and mentoring, allowing for self-directed learning, etc.

literature on employee selection documents its effectiveness as a management control system and explores how it should be implemented. For example, Deller and Sandino (2020) find that the allocation of hiring authority affects the quality of employee-firm match. Cai (2022) provides evidence that adopting a formal culture-fit measurement system in the employee selection process is effective in hiring the employees who are aligned with the espoused organizational values, and employees hired through this channel perform better. In particular, according to Cai (2022), implementing this system not only improves the newly-hired employees' performance, but also has a positive effect on the office-level performance. However, it remains unclear how the individual-level effects aggregate to firm-level effects. One possible explanation of firm-level effects is that the newly-hired employees who are selected through the culture-fit measurement system may interact with existing employees and gradually influence them.

The question of how the employee selection system affects not only newly-hired employees involves the two ways of shaping organizational culture: nature and nurture.[7] Shaping culture through nature highlights recruitment efforts to select employees inherently aligned with organizational values (Campbell 2012), whereas shaping culture through nurturing emphasizes the effect of management control systems on employees after they have been recruited into the company, including incentive systems or other internal management practices (Gibbons and Kaplan 2015; Glover and Xue 2022). Whereas implementing the culture-fit measurement system in the employee selection process is in itself a strategy to shape

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[7] From the philosophical or psychological perspective, "nature" refers to all of the genes and hereditary factors, while "nurture" refers to all the environmental variables. These concepts are borrowed into the context of shaping organizational culture but slightly modified. In the context of shaping organizational culture, "nature" refers to the employee's characteristic before he/she enters the company, while "nurture" refers to the influences imposed by the company on the employee.

organizational culture through nature, it might influence existing employees through complex channels such as learning and culture clash, which, in this way, can be viewed as nurturing. This paper focuses on shaping organizational culture through nurturing and examines the spillover effect of implementing the culture-fit measurement system in the employee selection process on existing employees' performance.

2.2 Spillover Effect of a Culture-fit Measurement System in Employee Selection Process

Prior research finds that, when a firm implements a management control system that seeks to find potential employees who are more aligned with organizational objectives, the new employees selected through the system are more aligned and perform better (Cai 2022). However, whether and how the system affects existing employees remains unclear.

2.2.1 Learning

On the one hand, the employee selection system might have a positive spillover effect on existing employees' performance through the learning channel. Since newly-hired employees selected through the culture-fit measurement system are more aligned with organizational values compared with employees who were not selected through that system (Cai 2022), existing employees may learn from the values and behaviors of the new employees selected through the system. This learning process can largely take two forms: active learning through social learning and passive learning through peer pressure.

Social learning theory proposes that new behaviors can be acquired by observing and imitating others (Bandura and Walters 1977). Because newly-hired employees selected through the culture-fit measurement system are more aligned with organizational objectives, they may have better work manners or code of conduct. This behavior can be learned by existing

employees by observation. In addition to the observation of behavior, learning may also occur through the observation of other peoples' rewards and punishments, which is known as vicarious learning. Choi, Hecht, Tafkov, and Towry (2016) find that employees may learn from their colleagues' rewards or punishments. According to Manz and Sims (1981), vicarious learning can alter organizational behavior through modeling. In the context of my study, after observing the higher performance ratings of the newly-hired employees selected through the culture-fit measurement, it is likely that existing employees will imitate new employees' behavior and try to replicate their success. In this way, existing employees learn from new employees' behaviors and values.

In addition, learning can also occur due to the peer pressure posed by group norms which may largely be influenced by the new employees selected through the system. Peer pressure can serve as an efficient control system in inducing better organizational outcomes through complex manners, including mutual monitoring, shame, guilt, norms, and desire for social approval (Kandel and Lazear 1992; Barron and Gjerde 1997; Mohnen, Pokorny and Sliwka 2008). As the number of employees who are more aligned with organizational objectives begins to grow, their presence may gradually alter existing employees' values and behaviors towards the values and behaviors desired by the organization through social pressure and implicit norms. As a result, existing employees' performance outcomes may be improved.

Nevertheless, it is possible that the new employees selected through the system may also learn from existing employees about their values and behaviors, which constitutes a process of integration. However, regardless of the extent, as long as existing employees' values and behaviors are altered towards the values and behaviors of new employees selected through

the system, which are desired by the organization, this phenomenon is suggestive of the learning of existing employees from new employees selected through the system.

2.2.2 Culture Clash

On the other hand, the employee selection system might have a negative spillover effect on existing employees' performance if there is a culture clash between new employees and existing employees. According to Akerlof and Kranton (2000), an individual's identity affects their behavior and in turn influences economic outcomes. When existing employees are not priorly aligned with the espoused organizational values, the arrival of the new employees selected through the system who are firmly aligned with the espoused organizational values might trigger a culture clash effect due to the differences in values (Van den Steen 2010).[8] Moreover, Van den Steen (2010) analytically proves that culture clash will reduce employees' efforts and utility, and it will thus harm their performances. Therefore, implementing a culture-fit measurement system in the employee selection process may not always bring a positive spillover effect on existing employees' performance when existing employees are not priorly aligned with the espoused organizational values.

Considering that learning and culture clash might have opposite effects on existing employees' performance, the spillover effect of adopting a formal culture-fit measurement system in the employee selection process on existing employees' performance is ambiguous. I therefore hypothesize:

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[8] For example, it is possible that newly hired employees value adaptability, embrace changes and view changes as opportunities, while existing employees cling to the current rules and methods. In this situation, disputes and conflicts may easily arise when both parties need to cooperate to respond to an unexpected change.

Hypothesis 1a (H1a): Adopting a formal culture-fit measurement system has a positive spillover effect on existing employees' performance.

Hypothesis 1b (H1b): Adopting a formal culture-fit measurement system has a negative spillover effect on existing employees' performance.

III. RESEARCH SETTING AND DATA

3.1 Research Setting[9]

The research site for this study is an agri-business company operating in China (hereafter, "ABC"). It produces agricultural products such as seafood, meat, dairy, and grains, and it distributes them to retail stores where they are sold to final consumers. Due to the perishable nature of its products, ABC has over 200 offices across the nation to assist local production. Each office maintains the same operational functions: planting, production, breeding, and processing. Other non-production-related functions, including human resources, procurement, financing, research and development, and marketing are managed by ABC's headquarters.

3.1.1 Employee Selection Process

ABC's employee selection process consists of two stages. The first stage is administered at the headquarters, where the human resources department screens applicants based on their resumes. The resume is often one page long and includes the employee's educational background and work experience. The second stage is conducted at local offices,

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[9] This study uses the same research setting as Cai (2022). Therefore, the description of the setting is partly adapted from Cai (2022). However, this study focuses on existing employees rather than newly-hired employees, and it extends the sample period to 2011-2020, compared with 2011-2017 in Cai (2022).

where unit managers interview the applicants who pass the first-round CV screening. Because an official guide for the interviewers did not exist, local managers can use their own discretion in the interview. Before the implementation of the culture-fit measurement system, it was unlikely that the local managers would ask the applicants questions about their alignment with organizational values, as the company did not have settled organizational values at that time. Though some work manners are commonly desired, the company did not explicitly summarize these values and disseminate them across all offices, and the desired values may vary from office to office due to local managers' distinct preferences or unique geographical customs.

However, shortly before 2012, in order to better manage the culture across its geographically dispersed offices, ABC decided to place more strategical emphasis on fostering a consistent organizational culture across the offices where employees share the same values. To implement this strategy, the top management team of ABC first listed a set of organizational values that desirable employees should embrace, summarized these values, and presented them on its official website. The espoused organizational values are simplicity, quality, adaptability, and integrity.[10] ABC then highlighted such value alignment in its employee selection process by adopting a formal culture-fit measurement system in its employee selection. Due to the difficulty in measuring cultural values, ABC collaborated with a third-party consulting firm to design the culture-fit test. This culture-fit test includes multiple-choice questions that ask the applicant how they would behave under various hypothetical situations, and it is designed to be an hour long. Online Appendix A provides sample questions for the culture-fit test. The

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[10] According to the company, simplicity refers to "making things easier and simplifying complex work"; quality refers to "maintaining consistent high quality to protect the interests of customers"; adaptability refers to "embracing change, seeing change as an opportunity and encouraging innovation"; integrity refers to "maintaining professional ethics, integrity and honesty."

culture-fit test generates two scores for each applicant taking the test: a culture-fit score and a credibility score. The culture-fit score ranges from 0 to 100 points and is determined by the number of answers that matched ABC's predetermined answer keys. The credibility score ranges from 0 to 5 and incorporates two considerations: the consistency of the applicant's answers and the potential for a social desirability bias. Consistency is measured based on whether the applicant responds with similar answers when the hypothetical situations are similar. Social desirability bias is measured by additional questions evaluating the applicant's tendency to answer questions in a manner that will be viewed favorably by others. These additional questions are mixed with the actual culture-fit questions. According to the human resources department, a minimum culture-fit score of 40 points and a credibility score that is above 0 are required to pass the test.

After the implementation of this formal culture-fit measurement system, applicants in the first stage of employee selection are screened based on both their resumes and their scores from the culture-fit test. The second stage remains unchanged. Local managers know whether an applicant passes the culture-fit test or not, but they do not know the candidate's exact scores.

The culture-fit measurement system was implemented in different offices in a staggered manner starting in 2012. The multiple implementation years are the result of the unexpected departure of a human resources executive. There were no concurrent major changes in the company concerning training, compensation, or performance evaluation that coincide with the implementation of the culture-fit measurement system. The number of applicants, the percentage of applicants who receive an offer, and the percentage of applicants who accept the

offer each year are similar before and after the implementation of the culture-fit measurement system.[11]

ABC did not have any formal or informal culture-fit measurement systems before this formal culture-fit measurement system, nor had the existing employees received training about ABC's organizational values. According to the company, one reason why they decided to foster organizational culture through employee selection rather than training is that adopting a formal culture-fit measurement test is more efficient than training individual employees. The company had over twenty thousand employees in 29 provinces across the country, and it would entail a great amount of time and monetary cost if it were to provide training for all its employees. For example, if training were conducted at the local office, it may not be effective in aligning the local office with organizational values, as such kinds of training are still subjective to local managers' distinct preferences or unique geographical factors. On the other hand, if training were conducted at the headquarters, it would incur a large amount of cost on travel and accommodation. Therefore, ABC decided to shape organizational culture through employee selection. Nonetheless, the company still expects that the newly-hired employees selected through the culture-fit measurement system would help nurture a desired organizational culture in local offices through their daily interactions with existing employees. For example, in small offices where all employees closely collaborate with each other, it is likely that the existing employees can learn from new employees selected through the system about their values and behaviors, especially when the existing employees are less experienced and more likely to be shaped through these interactions. Also, because office-level local culture might be shaped by

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[11] Usually, 30% of all applicants will receive an offer, and half of them will accept the offer.

unit managers, hiring new managers through the culture-fit measurement system could help

shape and maintain a local culture that is aligned with the espoused organizational values.

3.1.2 Measure of Employee Performance

Employee performance evaluation is based primarily on pre-determined objective

performance metrics, such as objective compliance and productivity measures. In rare

circumstances, senior managers may also incorporate subjective assessments, such as the

employee's work attitude and other uncontrollable factors, to adjust the employee performance

rating.[12] The final employee performance rating is based on a scale of 1 to 5.

3.1.3 Pre-implementation Survey of Existing Employees

In addition to implementing a formal culture-fit measurement system to select potential

employees who are more intrinsically aligned with organizational values, the company also

conducted a survey in a randomly selected subset of offices shortly before 2012 to assess the

extent to which existing employees shared the espoused organizational values. Existing

employees in 64 randomly selected offices took the survey, which asked respondents to

comment on their perceptions of the alignment between the existing culture in their local office

and organizational values. The survey was anonymous. Online Appendix B lists all 15 survey

items included in the pre-implementation survey.

3.2 Data and Descriptive Statistics

I obtained data on all employees from all offices of ABC from 2011 to 2020. This

employee-level data includes an employee's gender, age, tenure, job title, and whether they

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[12] According to the company, less than ten percent of the initial performance ratings were adjusted. It is also worth noting that performance ratings are less likely to be influenced by the adoption of the culture-fit system, as the difference between final performance rating and initial performance rating does not significantly change after the adoption of the culture-fit system.

were selected through the culture-fit measurement system. The data also details whether and when employees left the company. I refer to the employees who are selected through the culture-fit measurement system as *new employees*, and I refer to the employees who are *not* selected through the culture-fit measurement system as *existing employees*. My sample consists of the employees who were *not* selected through the culture-fit measurement system, hereafter, *existing employees*. The final sample includes 19,389 unique existing employees across 217 different offices. Figure 1 graphically illustrates different types of *existing employees* in my sample.

Table 1 presents the descriptive statistics of the sample of existing employees. The median existing employee has a performance rating of 3, has 9 years of tenure, and is 38 years old. 23.6% of the existing employees are female. 22.7% of the existing employees are managers. 16.4% of the existing employees are senior managers. The average turnover rate of existing employees is 15%, of which 90% are voluntary turnovers and 10% are involuntary turnovers.[13] The average percentage of employees who are selected through the culture-fit measurement system, hereafter, *new employees*, in the office is 7.8%.

Table 2 presents the correlations of the variables. Existing employees' performance is positively associated with the implementation of the culture-fit measurement system (*Post*) and the percentage of *new employees* in the office (*% New employees*), which suggests that implementing the culture-fit measurement system may have a positive spillover effect on existing employees' performance.

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[13] According to the author's interview with the company's management team, most voluntary turnovers are due to retirement or family reasons.

IV. EMPIRICAL RESULTS

4.1 Empirical Methodology

The research site provides an attractive setting to examine the spillover effect of the culture-fit measurement system on existing employees' performance. The adoption of the culture-fit measurement system occurred in a staggered fashion. Two human resources executives were initially responsible for adopting the culture-fit measurement system. The company's offices were randomly divided into two groups, with each HR executive taking charge of one group. However, one of the HR executives unexpectedly left the company for personal reasons right before the implementation of the system. Therefore, the remaining HR executive implemented the system as planned in the offices that they alone were in charge of, and the company appointed another HR executive to take charge of the other offices. The new HR executive's onboarding process caused the lengthy delay of the implementation. This quasi-randomized feature allows me to study the causal effect of the adoption of the culture-fit measurement system on existing employees' performance.

4.2 Spillover Effect of the Culture-fit Measurement System (Test of H1)

4.2.1 Implementation of the Culture-fit Measurement System

I first estimate the following equation to test whether the implementation of the culture-fit measurement system in the employee selection process has a significant spillover effect on existing employees' performances:

$$Employee\ performance_{i,t} = \alpha + \beta * Post_{i,t} + Controls_{i,t} + Fixed\text{-}Effects + \varepsilon_{i,t} \tag{1}$$

The unit of analysis is at the employee-year level for all existing employees from 2011 to 2020. The dependent variable *Employee performance*$_{i,t}$ is the final performance rating of employee *i*

in year *t*. *Post*i,t is an indicator variable equal to 1 if the office where employee *i* works has adopted the culture-fit measurement system by year *t* and 0 otherwise. *Controls*i,t include whether employee *i* is a female (*Female*i), employee *i*'s age and tenure in year *t* (*Age*i,t, *Tenure*i,t), and whether employee *i* is a manager in year *t* (*Manager*i,t).[14] I also include year-fixed effects to control for idiosyncratic events common to all employees at the same time, as well as office-fixed effects to account for time-invariant office heterogeneity. Standard errors are clustered at the office level. The main variable of interest is *Post*i,t.

The results are presented in Table 3. The results indicate that, on average, the implementation of the culture-fit measurement system alone does not have a significant impact on existing employees' performance ratings.[15]

4.2.2 Extent to Which the Culture-Fit Measurement System is Implemented

One possible explanation for the insignificant relationship between the implementation of the culture-fit measurement system and existing employees' performance is that the effect may be cumulative. In other words, the system's impact on existing employees' performance hinges on the extent to which it is implemented. To test this explanation, I focus on the percentage of employees selected through the culture-fit measurement system in the office rather than the implementation of the culture-fit measurement system alone, and I estimate the following equation:

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[14] Age may not be an integer because it takes into account both the birth year and the birth month.

[15] One possible reason for the insignificance might be the potential biases in the estimator arising from using earlier treated units as controls for later treated units, especially when the effect of implementing the culture-fit measurement system on existing employees' performance evolves over time (Baker, Larcker and Wang 2022). To address this concern, I follow the method proposed by Sun and Abraham (2021) and use the never-treated units, which are the existing employees whose offices have never implemented the culture-fit measurement system during the entire sample period, as clean controls. Untabulated results show that after such correction, the impact of the culture-fit measurement system on existing employees' performance becomes significantly positive.

Employee performance$_{i,t}$ = α + β* *% New employees*$_{i,t}$ +*Controls*$_{i,t}$ + *Fixed-Effects* + ε$_{i,t}$ (2)

where *% New employees*$_{i,t}$ is the number of new employees selected through the culture-fit measurement system divided by the number of all employees in the office where employee *i* works in year *t*.[16] I also include the same set of controls and fixed effects as those in equation (1), and I cluster standard errors at the office level.[17]

The results are presented in Table 4. *% New employees*$_{i,t}$ is significantly and positively associated with existing employees' performance, indicating that the positive spillover effect of the culture-fit measurement system depends on the extent to which it is implemented. In terms of economic magnitude, a one standard deviation-increase in the percent of new employees selected through the culture-fit measurement system in the office improves existing employee's performance by 2.9 percent standard deviation. The findings support and explain the finding from Cai (2022) that the improvement in office level performance due to the implementation of the culture-fit measurement system hinges on the percentage of employees selected through that system in the office. In addition, the results offer an explanation for why implementing a culture-fit measurement system in selecting new employees can exert a positive performance effect on the office as a whole.

4.3 Learning

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[16] The results are consistent if I use the following specification: *Employee performance*$_{i,t}$ = α + β$_1$* *Post*$_{i,t}$* *% New employees*$_{i,t}$ +β$_2$* *Post*$_{i,t}$ +*Controls*$_{i,t}$ + *Fixed-Effects* + ε$_{i,t}$. However, I choose to use equation (2) rather than this one for the following two reasons. First, it is unnecessary to control *Post*$_{i,t}$, because there exists no office that has implemented the system (*Post*$_{i,t}$=1) but does not have any new employees selected through that system (*% New employees*$_{i,t}$=0). In other words, it is hard to interpret β$_2$ if I control *Post*$_{i,t}$. Second, note that *% New employees*$_{i,t}$ is always equal to *Post*$_{i,t}$* *% New employees*$_{i,t}$. This is because, when *Post*$_{i,t}$=0, *% New employees*$_{i,t}$ = 0 = 0* *% New employees*$_{i,t}$; = *Post*$_{i,t}$* *% New employees*$_{i,t}$; when *Post*$_{i,t}$=1, *% New employees*$_{i,t}$ = 1* *% New employees*$_{i,t}$; = *Post*$_{i,t}$* *% New employees*$_{i,t}$.

[17] For all tests below in section IV, the results are robust when standard errors are clustered at the employee level.

One possible channel through which the culture-fit measurement system improves existing employees' performance is that existing employees may learn from newly-hired employees selected through the system about their values and behaviors. Such learning effects should be stronger when the existing employees are more easily influenced or when the new employees selected through the system are more capable of exerting influence upon existing employees. I use three cross-sectional tests on office size, existing employees' tenure, and the percentage of senior managers selected through the culture-fit measurement system in the office to test this channel.

First, office size affects the degree of interaction among employees. Working in a small office implies that the existing employees have a higher probability of interacting with new employees selected through the system, so learning between employees is more likely to occur. To conduct cross-sectional analysis on office size, I estimate the following equation:

Employee performance$_{i,t}$ = α + β$_1$*$Post_{i,t}$ × *Small office*$_{i,t}$ + β$_2$*$Post_{i,t}$ + β$_3$*Small office*$_{i,t}$ + *Controls*$_{i,t}$ + *Fixed-Effects* + ε$_{i,t}$ (3a)

where *Small office*$_{i,t}$ is an indicator variable equal to 1 if the size of the office where employee *i* works in year *t* is below sample median, and 0 otherwise. The coefficients on *Post*$_{i,t}$ × *Small office*$_{i,t}$ are significantly positive in both columns, indicating that the positive spillover effect of the culture-fit measurement system on existing employees' performance ratings is stronger when the office size is smaller. In terms of economic magnitude, implementing the culture-fit measurement system in small offices would increase existing employees' performance by 11 percent standard deviation.

Second, tenure is an important determining factor of the employee's work experience, and past experience is found to influence how an individual updates their prior beliefs due to confirmatory bias (Rabin and Schrag 1999; Augenblick and Rabin 2021). Existing employees with shorter tenures are usually less experienced and more likely to be shaped by new values and behaviors. To conduct cross-sectional analysis on existing employees' tenure, I estimate the following equation:

$Employee\ performance_{i,t} = \alpha + \beta_1 * Post_{i,t} \times Short\ tenure_{i,t} + \beta_2 * Post_{i,t} + Controls_{i,t} + Fixed\text{-}Effects + \varepsilon_{i,t}$ (3b)

where *Short tenure$_{i,t}$* is an indicator variable equal to 1 if employee *i*'s tenure in year *t* is below the sample median, and 0 otherwise. The definitions of other variables are the same as those in equation (1). The results are presented in Table 6. The coefficient on *Post$_{i,t}$* × *Short tenure$_{i,t}$* is significantly positive, indicating that the positive spillover effect of the culture-fit measurement system on existing employees' performance ratings is stronger when the existing employee has a shorter tenure. In terms of economic magnitude, for existing employees with short tenure, implementing the culture-fit measurement system increases their performance by 7.9 percent standard deviation.

Third, an employee's influence on other employees is greatly affected by their seniority and job rank. The influence of managers on employees is widely documented in literature (e.g., Bandiera, Barankay and Rasul 2007; Abernethy, Bouwens, Hofmann and van Lent 2022). If there are more senior managers selected through the system in the office, the new employees selected through the system will be more influential and are more likely to alter the values and behaviors of existing employees. To conduct cross-sectional analysis on the percentage of

senior managers selected through the system in the office, which I term *% New senior managers*, I estimate the following equation:

$$\textit{Employee performance}_{i,t} = \alpha + \beta_1 * \textit{Post}_{i,t} \times \textit{\% New senior managers}_{i,t} + \beta_2 * \textit{Post}_{i,t} + \textit{Controls}_{i,t} + \textit{Fixed-Effects} + \varepsilon_{i,t} \tag{3c}$$

where *% New senior managers*$_{i,t}$ is the number of senior managers selected through the culture-fit measurement system divided by the number of all employees in the office where employee *i* works in year *t*.[18,19] The definitions of other variables are the same as those in equation (1).

The results are presented in Table 7. The coefficient on *Post*$_{i,t}$ × *% New senior managers*$_{i,t}$ is significantly positive, indicating that the positive spillover effect of the culture-fit measurement system on existing employees' performance ratings is stronger when the office has more senior managers selected through the culture-fit measurement system. In terms of economic magnitude, when compared to existing employees in offices that have not implemented the system, existing employees in the offices that have implemented the system further improve their performance by 0.9 percent standard deviation if the percent of senior managers selected through the system increases by one standard deviation. This is consistent

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[18] Senior managers have higher seniority levels than managers. The results are robust if the percentage of top managers (more senior than senior managers) selected through the culture-fit measurement system in the office is used as a proxy for new employees' influence. These findings indicate that the spillover effect of the culture-fit measurement system is dependent on the relative influence (measured by seniority levels) of the new employees.

[19] Note that *% New senior managers*$_{i,t}$ is not included separately in the equation because it always equals *Post*$_{i,t}$ × *% New senior managers*$_{i,t}$. Specifically, when *Post*$_{i,t}$=0, there are no senior managers selected through the system, so *Post*$_{i,t}$ × *% New senior managers* $_{i,t}$=*% New senior managers* $_{i,t}$=0; when *Post*$_{i,t}$=1, *Post*$_{i,t}$ × *% New senior managers* $_{i,t}$=1× *% New senior managers* $_{i,t}$ = *% New senior managers* $_{i,t}$. Also, note that it is necessary to control *Post*$_{i,t}$, otherwise the offices that have not implemented the culture-fit measurement system will not be distinguished from the offices that have implemented the culture-fit measurement system but have not had new senior managers selected through that system. β_2 captures the spillover effect of the culture-fit measurement system when there have been no new senior managers selected through the system yet. β_1 captures how an increase in *% New senior managers* enhances the spillover effect of the culture-fit measurement system on existing employees' performance.

with the theory that managerial behavior affects employee productivity (Bandiera, Barankay and Rasul 2007).

4.4 Culture Clash

The main findings in Section 4.2 indicate a net positive spillover effect. However, it is unclear whether it is because a negative spillover effect due to culture clash does not exist or it is instead because the positive spillover effect dominates the negative spillover effect. To test whether the positive spillover effect of the culture-fit measurement system on existing employees' performance is partly reduced by culture clash, I estimate the following equation:

$$Employee\ performance_{i,t} = \alpha + \beta_1 * Post_{i,t} \times Low\ culture_i + \beta_2 * Post_{i,t} + Controls_{i,t} +$$
$$Fixed\text{-}Effects + \varepsilon_{i,t} \tag{4}$$

where *Low culture* is an indicator variable equal to 1 if employee *i*'s office's aggregated score from the culture-fit survey is below the sample median, and 0 otherwise.[20,21] The definitions of other variables are the same as those in equation (1). I also include office-fixed effects and year-fixed effects, and I cluster standard errors at the office level. The main coefficient of interest is β_1.

The results are reported in Table 8. The coefficient on $Post_{i,t} \times Low\ culture_i$ is significantly negative, indicating that the implementation of the culture-fit measurement system is less effective in improving existing employees' performance due to the culture clash

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[20] *Low culture_i* is not separately included in the equation because it would be subsumed by office fixed effects.

[21] The company did not ask existing employees to take the same test as new employees for two main reasons. First, it is practically impossible to ask existing employees to take the one-hour long culture-fit test, which would incur a large amount of time and monetary cost. Second, the number of questions in the question bank is limited. Allowing existing employees to take this test may increase the risk of leaking the questions. Therefore, the company uses a pre-implementation survey with 15 items to measure existing employees' culture-fit. Note that the survey is conducted at the individual level, but I only obtain office-level aggregated survey data due to the de-identified data requirement and confidentiality.

effect when existing employees are not priorly aligned with the espoused organizational values. In terms of economic magnitude, in offices where existing employees are not priorly aligned with the organizational values, the implementation of the culture-fit measurement system reduces existing employees' performance by 6.2 percent standard deviation.

V. ADDITIONAL TESTS

5.1 Existing Employees' Departure

An alternative explanation of the spillover effect of the culture-fit measurement system on existing employees' performance is that the implementation of the system sorts out the existing employees who are less aligned with organizational values rather than inducing learning between existing employees and new employees selected through the system. To address this concern, I estimate the following equations using the logit model:

$$Departure_{i,t} = \alpha + \beta * Post_{i,t} + Controls_{i,t} + Fixed\text{-}Effects + \varepsilon_{i,t} \tag{5a}$$

$$Involuntary\ departure_{i,t} = \alpha + \beta * Post_{i,t} + Controls_{i,t} + Fixed\text{-}Effects + \varepsilon_{i,t} \tag{5b}$$

$$Voluntary\ departure_{i,t} = \alpha + \beta * Post_{i,t} + Controls_{i,t} + Fixed\text{-}Effects + \varepsilon_{i,t} \tag{5c}$$

where $Departure_{i,t}$ is an indicator variable equal to 1 if employee i leaves the company in year $t+1$ and 0 otherwise. $Involuntary\ departure_{i,t}$ is an indicator variable equal to 1 if employee i leaves the company involuntarily (i.e., dismissals) in year $t+1$ and 0 otherwise. $Voluntary$ $departure_{i,t}$ is an indicator variable equal to 1 if employee i leaves the company voluntarily in year $t+1$ and 0 otherwise. The definitions of other variables are the same as those in equation (1). I also include office-fixed effects and year-fixed effects, and I cluster standard errors at the office level.

The results are presented in Table 9. Column 1 and 2 (3 and 4, 5 and 6) present the estimation of equation 5a (5b, 5c), where column 2 (4, 6) additionally controls the existing employee's performance, as departure is often associated with poor performance. The coefficient on $Post_{i,t}$ is insignificant in all columns, indicating that implementing the culture-fit measurement system does not significantly increase existing employees' overall departure, involuntary departure, or voluntary departure. The result mitigates the concern that the positive spillover effect on existing employees' performance occurs through the sorting-out effect rather than through the learning channel. Moreover, this is consistent with the anecdotal evidence that the company does not use dismissals as a major method to control employees due to the industry norm. In fact, this is one of the reasons motivating the company to shape organizational culture through employee selection, as firing is rare once the employee is recruited by the company.

5.2 Nonlinearity in the Spillover Effect

In this section, I extend section 4.2.2 and examine the nonlinearity in the spillover effect, that is, whether existing employees' performance follows a nonlinear relationship with the percentage of employees selected through the culture-fit measurement system in the office.

There might exist two types of non-linearity in the spillover effect of the culture-fit measurement system on existing employees' performance. First, it is possible that the spillover effect takes place only when there is a moderately high level of *% New employees*, whereas an extremely high or an extremely low level of *% New employees* does not induce a spillover effect. If *% New employees* is too low, they may not be able to influence existing employees to a significant extent according to the learning channel. On the other hand, if *% New employees*

is too high, according to the culture clash channel, existing employees might feel isolated and their performance might be reduced. In other words, the relationship between the percentage of employee selected through the culture-fit measurement system in the office and existing employees' performance might follow a curvilinear relationship. To test this curvilinear relationship, I add the quadratic term of *% New employees*$_{i,t}$ into equation (2) and re-estimate the equation. In untabulated results, the coefficient on *% New employees*$_{i,t}$ is still significantly positive, while the coefficient on the quadratic term of *% New employees*$_{i,t}$ is insignificant, indicating that a high level of *% New employees* is not detrimental to existing employees' performance.

Another type of nonlinearity may arise from the discontinuous relationship between the percentage of employee selected through the culture-fit measurement system in the office and existing employees' performance. In other words, the spillover effect of the culture-fit measurement system may not be large enough to make a significant difference until the percentage of new employees selected through the system in the office reaches a critical mass. To test the relationship, I estimate the following equation:

Employee Performance$_{i,t}$ = α + β$_1$*0-20% New employees*$_{i,t}$ + β$_2$*20-40% New employees*$_{i,t}$ + β$_3$*40-60% New employees*$_{i,t}$ + β$_4$*60-80% New employees*$_{i,t}$ + β$_5$*80-100% New employees*$_{i,t}$ + Controls$_{i,t}$ + Fixed-Effects + ε$_{i,t}$ (6)

where *m-n% New employees*$_{i,t}$ is an indicator variable equal to 1 if the percentage of new employees selected through the culture-fit measurement system in the office where employee *i* works in year *t* is greater than *m%* but less than or equal to *n%*. I also include the same set of

controls and fixed effects as those in equation (1), and I cluster standard errors at the office level.

The results are presented in Table 10. The results indicate that the spillover effect of the implementation of the culture-fit measurement system on existing employees' performance ratings starts to become significant when the percentage of employees selected through that system in the office reaches 20% or above. Figure 2 graphically shows such cumulative spillover effects by plotting the estimated β_1 to β_5 in equation (2). Taken together, these findings imply that the spillover effect of the culture-fit measurement system is cumulative and hinges on the degree of the implementation: the effect remains insignificant until the percentage of new employees reaches a critical mass. Moreover, the results also mitigate the concern that the improvement in existing employees' performance is mainly driven by the announcement of the adoption of the culture-fit measurement system rather than the learning between existing employees and new employees selected through the system.

5.3 Robustness Test

In this section, I conduct robustness tests to address the concerns of my empirical findings arising from (1) endogeneity in the implementation of the culture-fit measurement system and (2) inadequate matching between employees in the office that implemented the culture-fit measurement system and employees in the offices that didn't.

I first address the concern that the staggered implementation of the culture-fit measurement system might be endogenous. Although, according to the company, the staggered implementation of the culture-fit measurement system is entirely caused by an unexpected leave of a human resources executive, I still conduct several tests to address this concern.

Besides adding year- and office- fixed effects in previous equations, the other possible confounding factor may be time- and office- specific events coinciding with the implementation of the culture-fit measurement system and driving existing employees' performance. The time- and office- specific confounding factor might arise in two ways.

First, certain local macroeconomic changes might coincide with the implementation of the culture-fit measurement system and influence existing employees' performance. However, the offices that implement the culture-fit measurement system in each year are located in a wide range of cities across China, which are unlikely to be exposed to similar macroeconomic changes simultaneously. Moreover, if the performance increases are solely driven by local macroeconomic changes, the performance effect should only be correlated with the implementation of the culture-fit measurement system and should not be correlated with the percentage of employees selected through the culture-fit measurement system in the office (*% New employees*), which is the exact opposite of the findings in section 4.2.2, which indicate that the spillover effect of the culture-fit measurement system is cumulative.

Second, endogeneity might arise from the possibility that the offices which implemented the culture-fit measurement system are fundamentally different from those that did not implement the system. To address this concern, I compare the office-level characteristics of the offices that implemented the system (*Treated Office*) and the offices that did not (*Control Office*). For *Treated Office*, I calculate the percent of females in the office (*% Female employees*), percent of managers in the office (*% Managers*), employees' average age (*Average age*), average tenure (*Average tenure*), and average performance (*Average performance*) in the year before the implementation. For *Control Office*, I calculate the similar

office-level characteristics in the first year that it appears in my sample. Untabulated results indicate that there is no significant difference between the offices that implemented the culture-fit measurement system and the offices that did not in terms of multiple office-level characteristics, thus mitigating the concern that the headquarters selected certain offices to implement the system.

Next, I address the concern of inadequate matching between employees in the office that implemented the culture-fit measurement system and employees in the offices that did not by matching the two types of employees based on their age, gender, tenure, and whether they are managers using the entropy balancing method proposed by Hainmueller (2012). The entropy balancing method calibrates unit weights to create a balanced sample based on observable employee characteristics. The results are reported in Online Appendix C, which show that the results generally remain robust after reweighting, thus mitigating the concern of inadequate matching.[22]

5.4 Origin of Local Culture

In this section, I examine the origin of office-level local culture. The highest value of local culture alignment is 2.37, while the lowest value is -3.05, and the standard deviation is 1.06. Therefore, it is natural to ask why employees in some offices are more aligned with organizational values while employees in other offices are not. Do the differences arise out of geographical factors or out of local managers' distinct influences?[23] To answer this question, I conduct analysis of variance (ANOVA) between each office's local culture and the province

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[22] The significance of the cross-sectional result on culture clash is slightly reduced after reweighting. The p-value of the estimated coefficient on $Post_{i,t} \times Local\ culture_i$ is 0.225. This may imply that the culture clash effect is not strong enough, which is consistent with the finding that the spillover effect on existing employees' performance is net positive.

[23] ABC has offices in 29 provinces in mainland China, and each province may have distinctive local culture.

in which the office is located. The F-statistic is 3.11, which suggests that the variation in office-level local culture across provinces is approximately three times the size of the variation in office-level local culture within a province. The results indicate that at least part of the difference in office-level local culture originates from geographical factors, though other factors such as local managers' distinct influences may also exist.

The findings have important managerial implications for the companies that seek to shape and diffuse a desirable organizational culture. If office-level local culture mainly originates from geographical factors, to alter the culture, the company may consider recruiting new employees who come from a different geographical region from the office to balance the geographical local culture. On the other hand, if office-level local culture is mainly driven by local mangers' distinct influences, the company might consider training or replacing the managers to make them aligned with organizational values.

VI. CONCLUSION

Employee selection is a widely used management control system to align potential employees with organizational objectives, especially when it is difficult to contract on output. Implementing an employee selection system that sorts applicants based on their value alignment may not only select potential employees who are more aligned with organizational objectives but also influence existing employees.

Using proprietary data, I find that implementing a formal culture-fit measurement system in the employee selection process has a positive spillover effect on existing employees' performance and that the effect hinges on the percent of employees selected through that

system. Moreover, my results also indicate that such a spillover effect possibly functions through both learning and culture clash. In terms of the learning channel, I find that the spillover effect is stronger when new employees selected through the system are more likely to influence existing employees, which corroborates with the notion of learning from peers. In terms of the culture clash channel, I find that the system is more effective in improving existing employees' performance when existing employees are priorly aligned with the espoused organizational values. I also address various alternative explanations such as the sorting-out effect of the culture-fit measurement system.

This study is subject to several limitations. First, my findings are based on proprietary data from a single company, so they may not be generalized to other settings, especially the settings in which employees' value alignment and intrinsic motivation are not an important driver for long-term organizational success. Second, due to data availability, I am not able to directly observe the change in existing employees' values and norms to demonstrate the learning effect. Yet, the findings of several cross-sectional analyses based on when the existing employees are more likely to be influenced and when the new employees are more likely to be influential provide partial evidence that learning might exist. In terms of the culture clash channel, it is also difficult to directly observe and measure employees' daily interactions with each other, ultimately making it challenging to determine how conflicts and disputes arise. I leverage survey data on existing employees' prior alignment with organizational values as a proxy and encourage future studies to explore more direct and accurate measures for culture clash. Finally, I would like to note that the channels of the spillover effect of the culture-fit measurement system on existing employees' performance may not be limited to learning and

culture-clash. There may exist other channels such as the diversion of the office's strategic focus. I encourage future research to explore those channels.

Despite the limitations, this study points out that the effect of adopting an employee selection system that sorts on potential employees' value alignment can extend beyond the employees directly involved, i.e., employees who are selected through the system, and exert positive influences on existing employees' performance. The managerial implications are twofold. First, management control systems might have spillover effects outside of their targets. Companies may utilize such spillover effects to achieve desirable organizational outcomes more efficiently. Second, for companies intending to foster a desirable organizational culture, nature and nurturing are not two independent approaches to shaping culture. Rather, they may be interrelated approaches. Implementing an employee selection system as a way of shaping culture by nature may also influence existing employees through various channels, which can be viewed as nurturing. The spillover effect of the culture-fit measurement system speaks to the interrelationship between nature and nurturing, and it provides a novel perspective on how to diffuse a desirable organizational culture more efficiently.

References

Abernethy, Margaret A., Jan Bouwens, Christian Hofmann, and Laurence van Lent. 2022. "Altruism, social norms, and incentive contract design." *Review of Accounting Studies*: 1-45.

Akerlof, G.A. and R.E. Kranton. 2000. Economics and identity. *The Quarterly Journal of Economics*, 115(3), pp. 715-753.

Akerlof, G.A. and R.E. Kranton. 2005. Identity and the economics of organizations. *The Journal of Economic Perspectives*, 19(1), pp. 9-32.

Aranda, C., Arellano, J., and Davila, A. 2014. Ratcheting and the role of relative target setting. *The Accounting Review*, 89(4), 1197-1226.

Augenblick, N., and Rabin, M. 2021. Belief movement, uncertainty reduction, and rational updating. *The Quarterly Journal of Economics*, 136(2), 933-985.

Baker, A. C., Larcker, D. F., & Wang, C. C. 2022. How much should we trust staggered difference-in-differences estimates?. *Journal of Financial Economics*, *144*(2), 370-395.

Bandiera, O., Barankay, I., and Rasul, I. 2007. Incentives for managers and inequality among workers: Evidence from a firm-level experiment. *The Quarterly Journal of Economics*, 122(2), 729-773.

Bandura, A., and Walters, R. H. 1977. *Social learning theory (Vol. 1).* Prentice Hall: Englewood cliffs.

Barron J M, Gjerde K P. 1997. Peer pressure in an agency relationship. *Journal of Labor economics*, 15(2): 234-254.

Cai, W. 2022. Formalizing the Informal: Adopting a Formal Culture-fit Measurement System in the Employee Selection Process. *The Accounting Review, Forthcoming*

Campbell, D. 2012. Employee selection as a control system. *Journal of Accounting Research*, 50(4), pp. 931-966.

Campbell, D., Epstein, M. J., & Martinez-Jerez, F. A. 2011. The learning effects of monitoring. *The Accounting Review*, 86(6), 1909-1934.

Chatman, J.A. 1989. Matching people and organizations: Selection and socialization in public accounting firms. *Academy of Management Proceedings*, Vol. 1989, No. 1, pp. 199-203.

Choi, J., Hecht, G., Tafkov, I. D., and Towry, K. L. 2016. Vicarious learning under implicit contracts. *The Accounting Review*, 91(4), 1087-1108.

Deller, C. and T. Sandino. 2020. Who should select new employees in geographically dispersed organizations: Headquarters or the unit manager? Consequences of centralizing hiring at a retail chain. *The Accounting Review*, 95(4), pp. 173–198.

Falk, A., & Kosfeld, M. 2006) The hidden costs of control. *American Economic Review*, 96(5), 1611-1630.

Gibbons, R. and R.S. Kaplan. 2015. Formal measures in informal management: Can a balanced scorecard change a culture? *American Economic Review*, 105(5), pp. 447-51.

Glover J., Xue H. 2022. Accounting Conservatism and Relational Contracting. *Working Paper*

Graham, J.R., Grennan, J., Harvey, C.R. and Rajgopal, S., 2022. Corporate culture: Evidence from the field. *Journal of Financial Economics*, 146(2), pp.552-593.

Hainmueller, J. 2012. Entropy balancing for causal effects: A multivariate reweighting method to produce balanced samples in observational studies. *Political analysis*, 20(1), 25-46.

Herriott, S. R., Levinthal, D., & March, J. G. 1985. Learning from experience in organizations. *American Economic Review*, 75(2), 298-302.

Kandel, E., and Lazear, E. P. 1992. Peer pressure and partnerships. *Journal of political Economy*, 100(4), 801-817.

Levitt, S. D., List, J. A., & Syverson, C. 2013. Toward an understanding of learning by doing: Evidence from an automobile assembly plant. *Journal of political Economy*, 121(4), 643-681.

Manz C C, Sims Jr H P. 1981. Vicarious learning: The influence of modeling on organizational behavior. *Academy of Management Review*, 6(1): 105-113.

Merchant, K. A., and Van der Stede, W. A. 2007. *Management control systems: performance measurement, evaluation and incentives*. Pearson education.

Mohnen A, Pokorny K, Sliwka D. 2008. Transparency, inequity aversion, and the dynamics of peer pressure in teams: Theory and evidence. *Journal of Labor Economics*, 26(4): 693-720.

Nagar, V. 2002. Delegation and incentive compensation. *The Accounting Review*, 77(2), 379-395.

Prendergast, C. 2008. Intrinsic motivation and incentives. *American Economic Review*, 98(2), 201-05.

Rabin, M., and Schrag, J. L. 1999. First impressions matter: A model of confirmatory bias. *The quarterly journal of economics*, 114(1), 37-82.

Ritter, B. A. 2006. Can business ethics be trained? A study of the ethical decision-making process in business students. *Journal of Business Ethics*, 68(2), 153-164.

Staats, B. R., Kc, D. S., & Gino, F. 2018. Maintaining beliefs in the face of negative news: The moderating role of experience. *Management Science*, 64(2), 804-824

Sun, L., & Abraham, S. 2021. Estimating dynamic treatment effects in event studies with heterogeneous treatment effects. *Journal of Econometrics*, *225*(2), 175-199.

Van den Steen, E. 2010. Culture clash: The costs and benefits of homogeneity. *Management Science*, 56(10), pp. 1718-1738.

Wynd, W. R., & Mager, J. 1989. The business and society course: Does it change student attitudes?. *Journal of Business Ethics*, 8(6), 487-491.

Figure 1: Constitutions of the Sample

This figure illustrates the composition of the sample. My sample consists of all *Existing Employees*, i.e., the employees who were selected through the old selection system (no culture-fit measurement). Among all *Existing Employees*, *Treated Units* refer to the *Existing Employees* whose office has implemented the culture-fit measurement system; *Control Units* refer to the *Existing Employees* whose office has not implemented the culture-fit measurement system.
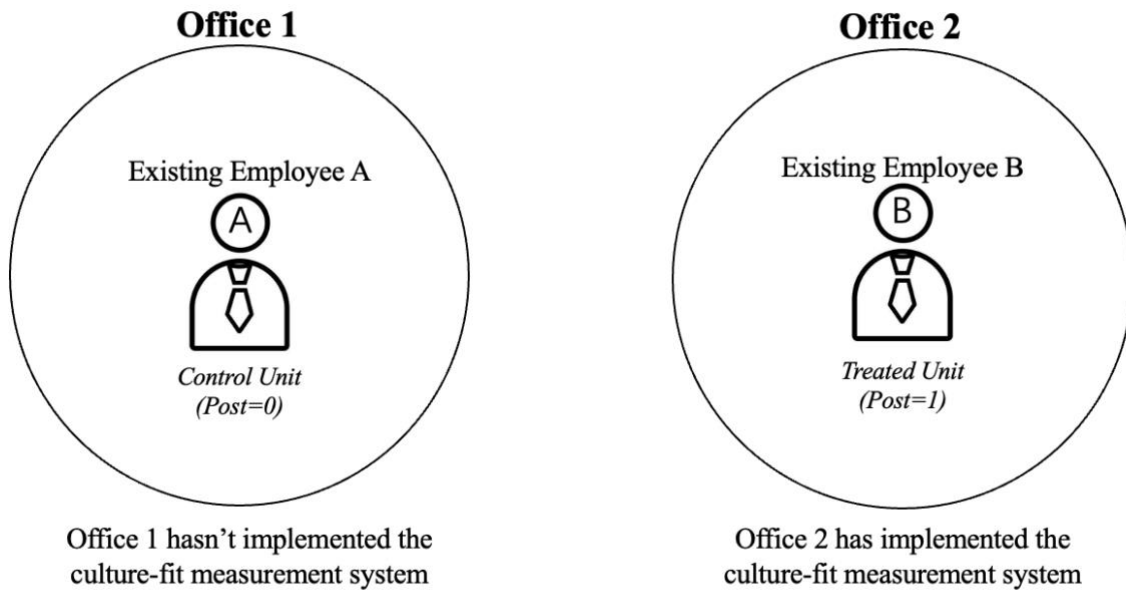
Figure 1

Figure 2: Cumulative Effect of The Culture-Fit Measurement System

This figure plots the spillover effect of the culture-fit measurement system on existing employees' performance when the percentage of new employees selected through the culture-fit measurement system in the office (i.e., *% New employees*) is at different levels. Corresponding to Panel B of Table 4, each point in the figure below represents the estimated coefficients of the dummy variables for different levels of *% New employees* at 20% intervals.

Figure 2

Appendix A: Variable Definitions

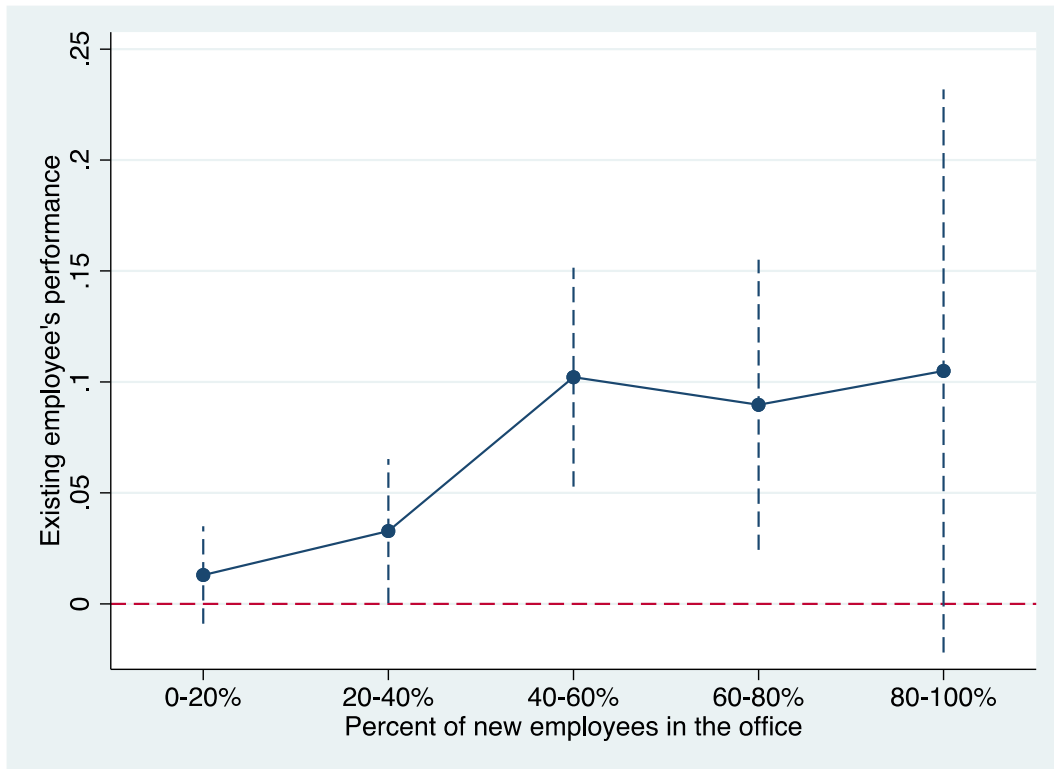| Variable	Definition
Employee performance$_{i,t}$	Employee *i*'s final performance rating in year *t*
Tenure$_{i,t}$	Employee *i*'s tenure in year *t* (first year equal to 0)
Short tenure$_{i,t}$	Indicator variable equal to 1 if employee *i*'s tenure in year *t* is below sample median, and 0 otherwise
Female$_i$	Indicator variable equal to 1 if employee *i* is female and 0 otherwise
Age$_{i,t}$	Employee *i*'s age in year *t*
Manager$_{i,t}$	Indicator variable equal to 1 if employee *i* is a manager in year *t* and 0 otherwise
% New employees$_{i,t}$	The number of employees selected through the culture-fit measurement system divided by the number of all employees in the office where employee *i* works in year *t*
Post$_{i,t}$	Indicator variable equal to 1 if the office in which employee *i* works has adopted the culture-fit measurement system by year *t* and 0 otherwise
Office size$_{i,t}$	Natural log of the number of all employees in the office in which employee *i* works in year *t*
Small office$_{i,t}$	Indicator variable equal to 1 if *Office size$_{i,t}$* is below sample median, and 0 otherwise
% New senior managers$_{i,t}$	The number of senior managers selected through the culture-fit measurement system divided by the number of all employees in the office where employee *i* works in year *t*
Senior manager$_{i,t}$	Indicator variable equal to 1 if employee *i* is a senior in year *t* and 0 otherwise
Local culture$_i$	The aggregated index from factor analysis of the pre-implementation survey in the office where employee *i* works
Low culture$_i$	Indicator variable equal to 1 if *Local culture$_i$* is below sample median, and 0 otherwise
Departure$_{i,t}$	Indicator variable equal to 1 if employee *i* leaves the company in year *t*+1 and 0 otherwise
Involuntary departure$_{i,t}$	Indicator variable equal to 1 if employee *i* leaves the company involuntarily in year *t*+1 and 0 otherwise
Voluntary departure$_{i,t}$	Indicator variable equal to 1 if employee *i* leaves the company voluntarily in year *t*+1 and 0 otherwise

Table 1: Descriptive Statistics

This table reports the descriptive statistics of the variables defined in Appendix A.

Variable	N	Mean	p50	SD	Min	Max
Employee performance	90428	3.302	3.000	0.649	1.000	5.000
Tenure	90428	10.728	9.000	7.153	0.000	38.000
Female	90428	0.236	0.000	0.425	0.000	1.000
Age	90428	38.434	38.159	8.643	18.000	65.159
Manager	90428	0.227	0.000	0.419	0.000	1.000
Post	90428	0.793	1.000	0.405	0.000	1.000
% New employees	90428	0.078	0.043	0.106	0.000	0.929
Office size	90428	4.671	4.727	0.969	0.693	6.767
% New senior managers	90428	0.003	0.000	0.012	0.000	0.500
Senior Manager	90428	0.164	0.000	0.371	0.000	1.000
Local culture	56145	0.099	-0.112	1.062	-3.047	2.370
Departure	90428	0.150	0.000	0.357	0.000	1.000
Involuntary departure	90428	0.016	0.000	0.126	0.000	1.000
Voluntary departure	90428	0.134	0.000	0.340	0.000	1.000

Table 2: Correlations

This table reports the correlations of the variables defined in Appendix A. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

No.		1	2	3	4	5	6	7
1	*Employee performance*	1.0000						
2	*Tenure*	0.0814***	1.0000					
3	*Female*	0.0404***	0.0756***	1.0000				
4	*Age*	-0.0281***	0.6625***	-0.0215***	1.0000			
5	*Manager*	0.2302***	0.1973***	-0.0434***	0.1056***	1.0000		
6	*Post*	0.0074*	0.2020***	0.0019	0.1517***	0.0270***	1.0000	
7	*% New employees*	0.0042	0.0566***	-0.0357***	0.0360***	0.0088**	0.3860***	1.0000
8	*Office size*	-0.0921***	-0.0636***	0.0861***	-0.0124***	-0.1747***	0.0314***	-0.0728***
9	*% New senior managers*	0.0492***	0.0768***	0.0068	0.0708***	0.1365***	0.1258***	0.2499***
10	*Senior Manager*	0.2173***	0.2002***	-0.0428***	0.1331***	0.8239***	0.0248***	0.0080*
11	*Local culture*	-0.0821***	-0.0164***	0.0675***	0.0070*	-0.0529***	0.0947***	-0.0366***
12	*Departure*	-0.0953***	-0.0003	0.0265***	0.0216***	-0.0600***	0.1360***	0.0218***
13	*Involuntary departure*	-0.0741***	-0.0150***	-0.0018	-0.0079*	-0.0342***	0.0414***	0.0051
14	*Voluntary departure*	-0.0711***	0.0058	0.0288***	0.0262***	-0.0498***	0.1276***	0.0210***

No.		8	9	10	11	12	13	14
8	*Office size*	1.0000						
9	*% New senior managers*	-0.1596***	1.0000					
10	*Senior Manager*	-0.1361***	0.1290***	1.0000				
11	*Local culture*	0.5205***	-0.0418***	-0.0485***	1.0000			
12	*Departure*	0.0246***	0.0314***	-0.0552***	0.0314***	1.0000		
13	*Involuntary departure*	-0.0351***	-0.0034	-0.0283***	-0.0344***	0.3384***	1.0000	
14	*Voluntary departure*	0.0403***	0.0347***	-0.0471***	0.0473***	0.9242***	-0.0467***	1.0000

Table 3: Effect of Adopting the Culture-Fit Measurement System

This table reports the results of tests estimating the effect of implementing the culture-fit measurement system in the employee selection process on existing employees' performance. All variables are defined in Appendix A. All regressions include office-fixed effects and year-fixed effects. T-statistics based on standard errors clustered at the office level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

	(1)	(2)
	Employee performance	*Employee performance*
Post	0.007	0.019
	(0.376)	(1.128)
Tenure		0.012***
		(12.322)
Female		0.063***
		(7.032)
Age		-0.010***
		(-13.095)
Manager		0.283***
		(12.635)
Constant	3.460***	3.547***
	(280.621)	(130.707)
Year FE	Yes	Yes
Office FE	Yes	Yes
N	90428	90428
Adj. R-sq	0.050	0.095

Table 4: Cumulative Effect of the Culture-Fit Measurement System

This table reports the results of tests estimating the cumulative effect of the culture-fit measurement system on existing employees' performance. All variables are defined in Appendix A. All regressions include office-fixed effects and year-fixed effects. T-statistics based on standard errors clustered at the office level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

	(1)	(2)
	Employee performance	*Employee performance*
% New employees	0.112**	0.176***
	(1.990)	(3.249)
Tenure		0.012***
		(12.327)
Female		0.063***
		(7.054)
Age		-0.010***
		(-13.094)
Manager		0.284***
		(12.682)
Constant	3.452***	3.531***
	(324.693)	(130.953)
Year FE	Yes	Yes
Office FE	Yes	Yes
N	90428	90428
Adj. R-sq	0.050	0.095

Table 5: Cross-Sectional Analysis on Office Size

This table reports the results of tests estimating the cross-sectional effect of office size. *Small office* is an indicator variable equal to 1 if the size of the office where the employee works is below the sample median, and 0 otherwise. All other variables are defined in Appendix A. All regressions include office-fixed effects and year-fixed effects. T-statistics based on standard errors clustered at the office level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

	(1) Employee performance	(2) Employee performance
Post × Small office	0.099***	0.069***
	(3.870)	(2.801)
Post	-0.003	0.006
	(-0.182)	(0.389)
Small office	0.057**	-0.030
	(2.258)	(-1.312)
Tenure		0.012***
		(12.343)
Female		0.063***
		(7.024)
Age		-0.010***
		(-13.071)
Manager		0.281***
		(12.241)
Constant	3.350***	3.540***
	(146.394)	(113.180)
Year FE	Yes	Yes
Office FE	Yes	Yes
N	90428	90428
Adj. R-sq	0.052	0.095

Table 6: Cross-Sectional Analysis on Existing Employee's Tenure

This table reports the results of tests estimating the cross-sectional effect of existing employees' tenure. *Short tenure e* is an indicator variable equal to 1 if the employee's tenure is below the sample median, and 0 otherwise. All other variables are defined in Appendix A. All regressions include office-fixed effects and year-fixed effects. T-statistics based on standard errors clustered at the office level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

	(1)	(2)
	Employee performance	*Employee performance*
Post × Short tenure	0.059***	0.051***
	(3.888)	(3.672)
Post	-0.031	-0.015
	(-1.400)	(-0.779)
Short tenure	-0.143***	-0.146***
	(-9.289)	(-9.415)
Female		0.070***
		(7.628)
Age		-0.008***
		(-11.808)
Manager		0.291***
		(12.520)
Constant	3.562***	3.628***
	(240.584)	(114.856)
Year FE	Yes	Yes
Office FE	Yes	Yes
N	90428	90428
Adj. R-sq	0.055	0.092

Table 7: Cross-Sectional Analysis on New Employees' Influence

This table reports the results of tests estimating the cross-sectional effect of new employees' influence, measured by the percentage of senior managers selected through the culture-fit measurement system. All variables are defined in Appendix A. All regressions include office-fixed effects and year- fixed effects. T-statistics based on standard errors clustered at the office level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

	(1)	(2)
	Employee performance	*Employee performance*
Post × % New senior managers	1.259***	0.491**
	(3.922)	(2.215)
Post	0.004	0.018
	(0.242)	(1.072)
Tenure		0.012***
		(12.333)
Female		0.063***
		(7.037)
Age		-0.010***
		(-13.081)
Manager		0.282***
		(12.613)
Constant	3.352***	3.505***
	(105.786)	(103.755)
Year FE	Yes	Yes
Office FE	Yes	Yes
N	90428	90428
Adj. R-sq	0.051	0.095

Table 8: Cross-Sectional Analysis on Existing Employees' Prior Alignment

This table reports the results of tests estimating the cross-sectional effect of existing employees' prior alignment with organizational values. *Low culture* is an indicator variable equal to 1 if the office's aggregated score from the culture-fit survey is below the sample median, and 0 otherwise. All other variables are defined in Appendix A. All regressions include office-fixed effects and year-fixed effects. T-statistics based on standard errors clustered at the office level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

	(1)	(2)
	Employee performance	*Employee performance*
Post × Low culture	-0.042**	-0.040*
	(-2.050)	(-1.954)
Post	0.014	0.021
	(0.679)	(0.940)
Tenure		0.013***
		(10.233)
Female		0.064***
		(5.318)
Age		-0.011***
		(-9.064)
Manager		0.311***
		(9.566)
Constant	3.141***	3.362***
	(179.903)	(93.102)
Year FE	Yes	Yes
Office FE	Yes	Yes
N	56145	56145
Adj. R-sq	0.044	0.096

Table 9: Effect of the Culture-fit Measurement System on Employee Departure

This table reports the results of tests estimating the effect of implementing the culture-fit measurement system on existing employees' departure. All variables are defined in Appendix A. All regressions include office-fixed effects and year-fixed effects. T-statistics based on standard errors clustered at the office level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Departure		*Involuntary departure*		*Voluntary departure*	
Post	0.275	0.287	0.442	0.493	0.213	0.222
	(1.327)	(1.380)	(0.745)	(0.800)	(0.950)	(0.983)
Female	-0.025	0.004	0.131	0.190**	-0.050	-0.026
	(-0.734)	(0.121)	(1.463)	(2.133)	(-1.353)	(-0.708)
Age	0.001	-0.004	0.019***	0.012*	-0.002	-0.006**
	(0.421)	(-1.417)	(3.089)	(1.795)	(-0.753)	(-2.216)
Manager	-0.681***	-0.558***	-0.638***	-0.428***	-0.671***	-0.570***
	(-7.410)	(-6.173)	(-4.390)	(-2.878)	(-6.669)	(-5.770)
Tenure	-0.025***	-0.020***	-0.024***	-0.015*	-0.023***	-0.020***
	(-7.143)	(-6.018)	(-2.986)	(-1.921)	(-6.352)	(-5.455)
Employee performance		-0.447***		-0.893***		-0.358***
		(-17.801)		(-13.814)		(-13.786)
Constant	-2.989***	-1.417***	-8.522***	-5.797***	-2.746***	-1.480***
	(-9.442)	(-4.131)	(-18.780)	(-10.526)	(-8.339)	(-4.161)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Office FE	Yes	Yes	Yes	Yes	Yes	Yes
N	90406	90406	68394	68394	90391	90391
Pseudo R-sq	0.250	0.259	0.227	0.252	0.260	0.265

Table 10: Non-linearity of the Spillover Effect

This table reports the results of tests estimating the non-linearity of spillover effect of the culture-fit measurement system on existing employees' performance. *m-n% New employees*$_{i,t}$ is an indicator variable equal to 1 if the percentage of new employees selected through the culture-fit measurement in the office in which employee *i* works in year *t* is greater than *m%* but less than or equal to *n%.*, and 0 otherwise. For instance, *0-20% New employees* is an indicator variable equal to 1 if the percentage of employees selected through the culture-fit measurement system in the office in which employee i works in year t (i.e., *% New employees*$_{i,t}$) is greater than 0% but less than or equal to 20%, that is, (0,20%]. All other variables are defined in Appendix A. All regressions include office-fixed effects and year-fixed effects. T-statistics based on standard errors clustered at the office level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

	(1)
	Employee performance
0-20% New employees	0.013
	(0.980)
20-40% New employees	0.033*
	(1.670)
40-60% New employees	0.102***
	(3.421)
60-80% New employees	0.090**
	(2.266)
80-100% New employees	0.105
	(1.366)
Female	0.063***
	(7.060)
Age	-0.010***
	(-13.110)
Manager	0.284***
	(12.658)
Tenure	0.012***
	(12.323)
Constant	3.527***
	(127.848)
Year FE	Yes
Office FE	Yes
N	90428
Adj. R-sq	0.095

Online Appendix to
*The Spillover Effect of Adopting a Formalized Culture-fit Measurement System
in the Employee Selection Process*

Online Appendix A[24]

Instructions and Sample Question in the Culture-fit Measurement System

Instructions

This test will cover all kinds of real situations that you may encounter in your daily work. Please choose the one answer that best describes your reaction and the one that describes your reaction the least. Please pay attention to the following points when answering questions:

1. For each question you must choose two answers and the two cannot be the same.
2. When you answer the question, imagine that you are in the actual work environment.
3. This is not an exam. There is no right or wrong, nor good or bad answer. Please answer based on how you would behave.

Sample Questions: Adaptability

1. Due to the needs of the company's business development, the team you are responsible for will be merged into another department. Your subordinates feel uneasy and are afraid of losing their jobs. Some key employees also have the intention to leave, which has greatly affected the working atmosphere and work quality of your team. As the team leader, you will be most likely to (   ). You will be least likely to (   ).

A. Advise them to wait and tell them that a merger is not necessarily a bad thing
B. Actively communicate with them, and speak with those who intend to leave in private
C. Try your best to retain key employees
D. Acknowledge that department consolidation is a challenge but also an opportunity for employees
E. Tell them that instead of having to readapt to a new job, it is better to look for opportunities in the current situation
F. Pacify them and promise them that they will have better pay after the merger

2. A colleague in your department has strong technical skills but is very difficult to get along with. Recently you have been assigned to complete a project with him. You will be most likely to (   ). You will be least likely to (   ).

A. Report to your manager and try to replace him with other colleagues.
B. Discuss with him, divide the work, and do your part of the work by yourself.
C. Think about his opinion and then decide how to complete the task.
D. Communicate with him and actively cooperate with him.
E. Complete the project yourself and try not to contact him.
F. Try not to provoke him and cooperate with him in a very cautious way.

3. Your department is conducting business training for new employees. Without prior notice, your supervisor asked you to share a project that you currently working on. You have been very busy recently. You will:

A. Prepare the framework and improvise according to the audience's reaction
B. Slightly modify a relevant ppt that you already have and use it for this training
C. Review the project and integrate your own experience into the presentation

Sample Questions: Simplicity

1. When making a plan, you prioritize the following things:
①clarify work objectives
②list the planned completion date of each task

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[24] This is the same as Appendix B in Cai (2022).

③list the planned progress in each stage
④split work tasks
A. ①-④-②-③   B. ①-④- ③-②
C. ①- ②- ③-④   D. ③-①-④ -②

2. If there are four things that you need to deal with today, your order of dealing with them is:
①revise the slides to be used at the department's case sharing meeting tomorrow
②prepare the report to be used at the monthly summary meeting next week
③deal with the problems that the customer urges you to solve
④inform colleagues to participate in the project discussion this afternoon
A. ②-①-④-③   B. ①-③-④-②
C. ③-②-④-①   D. ③-④-①-②

3. Your team has the following issues to address. Your order of addressing them is:
①two members of the project team are in a mood at work due to disagreement
②summarize periodic achievements and report project progress to the superior
③a technical problem occurred in the project, which slowed down the overall progress
④ confirm the project publicity materials with the marketing department
A. ①-④-③-②   B. ②-③-①-④
C. ③-①-②-④   D. ③-②-①-④

Sample Questions: Integrity
1. Richard has worked in the company for many years and has always been very responsible and never made any mistakes. However, recently, he is often absent-minded at work, and there are errors in the contract he gives to the customer. The customer is extremely dissatisfied with Richard's performance and requests that the company dismiss Richard. As Richard's supervisor, you will be most likely to (   ). You will be least likely to (   ).
A. Not fire Richard and try to appease the customer
B. Not fire Richard, find another employee to serve the customer, and tell the customer that you have already dismissed Richard
C. Listen to Richard's explanation. If there are extenuating circumstances, let it go
D. Ask your superior for advice
E. Fire Richard
F. Investigate in private whether Richard has encountered any difficulties and then make a decision

2. Richard: As soon as I promised my supervisor to attend the training this weekend, a classmate informed me of the party this weekend. What should I do?
John: Just find an excuse and tell the supervisor that you can't go to the training.
Richard: I don't think that's appropriate. I shouldn't break my promise.
John: It's no big deal. You don't have to go to this training.
Please choose the opinion you agree with:
A. I agree with Richard's point of view
B. I agree with Richard, but what John said is also reasonable
C. What Richard and John said are both reasonable
D. I agree with John, but what Richard said is also reasonable
E. I agree with John's point of view

3. John: Why did you get off work so late yesterday?

Kevin: Well, when I was about to get off work, I remembered that I promised to give my supervisor the monthly report that day, so I had to work overtime.

John: You're too serious. It's okay to give it to him today.

Kevin: How could it be okay? I had already promised it.

Please choose the opinion you agree with:

A. I agree with John's point of view

B. I agree with John, but what Kevin said is also reasonable

C. What John and Kevin said are both reasonable

D. I agree with Kevin, but what John said is also reasonable

E. I agree with Kevin's point of view

Sample Questions: Quality

1. You and your colleague work together to provide a solution for the customer. After the solution is submitted, the customer is very dissatisfied with part of the solution and requires you to modify it immediately. However, you have already joined another project team, and the part that the customer is dissatisfied with was done by your colleague. At this time, you will decide:

A. My colleague and I didn't cooperate well. I need to spend some time helping him revise the plan

B. My colleague will be more familiar with the part he wrote, so it's better to let him modify the solution

C. I didn't really grasp the customer's real needs as well, so I will take the lead in revising the solution with my colleague

2. Your job is very demanding. You must be very concentrated, and your completed tasks need to be checked many times to ensure that there are no errors. You think:

A. For the sake of work quality, this is understandable

B. This job is too stressful. I need to change to another job

C. This helps me develop good working habits

3. Assume that you are the front-line manager of the production department of a cosmetics factory. If you find that some key employees sell unqualified products to some online stores without permission, you will be most likely to (   ). You will be least likely to (   ).

A. Deal with it seriously: dismiss the employee immediately, regardless of whether they are a key employee

B. Increase the penalty. For example, an employee will be fined for ten times of the value of an unqualified product if they secretly sell it

C. Reinforce supervision, set up a tip-off system and reward the informers

D. Report the problem to the superior and address it according to their opinion

E. Privately remind the violators that if they commit it again, you will increase their penalty

F. Discuss it formally at the department meeting and formulate a system to deal with it

Online Appendix B[25]
Pre-implementation Employee Survey

Instructions: Please read each statement carefully and rate how strongly you agree or disagree with it on a scale of 0–6 with 0 being "strongly disagree" and 6 being "strongly agree." There are no right or wrong answers or trick questions. Please respond as honestly as you can. All answers remain confidential.

1. I can clearly articulate the organizational values and the contribution of my work to the company.
2. My company's future development prospects are consistent with my professional ideals.
3. In the long run, I can achieve my career ideals in the company.
4. Senior leaders fulfill their commitment to employees.
5. Senior leaders fully empower and promote employee autonomy.
6. Senior leaders make me look forward to the future of the company.
7. Senior leaders clearly communicate organizational values.
8. My supervisor is trustworthy and provides me with the effective support I need for my job.
9. My supervisor clearly communicates organizational values.
10. My supervisor makes his/her expectations clear to me.
11. I feel comfortable communicating with my supervisor.
12. I think my colleagues care about me.
13. Colleagues respect my opinions and feelings.
14. Colleagues are willing to help when I have problems at work.
15. My company has a good communication and collaboration atmosphere.

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[25] This is the same as Appendix C in Cai (2022).

Online Appendix C: Re-Weight the Sample Using Entropy Balancing

This table reports the results of robustness tests that re-weight the sample based on observed employee characteristics and re-run the main regressions. Panel A presents the covariate balance between treated and control employees before and after entropy balancing. Panel B (C, D, E, F, G) re-runs the analysis of Table 3 (4, 5, 6, 7, 8). For all panels except Panel D, the sample is re-weighted based on treated and control employees' age, gender, tenure, and whether he/she is a manager. For Panel D, treated and control employees are matched based on age, gender, and whether he/she is a manager, in order to allow for enough variation in employee tenure to conduct cross-sectional test on tenure. Since the sample is balanced after re-weighting, the original four control variables (age, gender, tenure, and whether the employee is a manager) are not included in the regressions. However, all regressions still include office-fixed effects and year-fixed effects. T-statistics based on robust standard errors clustered at the office level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

Panel A

Before re-weighting

	Treat (*Post*=1)			Control (*Post*=0)		
	mean	variance	skewness	mean	variance	skewness
Age	39.21	71.53	0.08668	35.46	75.75	0.3101
Female	0.2348	0.1797	1.252	0.2408	0.1828	1.212
Manager	0.2299	0.177	1.284	0.2183	0.1706	1.364
Tenure	11.59	49.64	0.5113	7.41	43.13	0.7949

After re-weighting

	Treat (*Post*=1)			Control (*Post*=0)		
	mean	variance	skewness	mean	variance	skewness
Age	39.21	71.53	0.08668	39.21	75.28	-0.06181
Female	0.2348	0.1797	1.252	0.2348	0.1797	1.252
Manager	0.2299	0.177	1.284	0.2299	0.177	1.284
Tenure	11.59	49.64	0.5113	11.59	55.59	0.0915

Panel B

	(1)
	Employee performance
Post	-0.006
	(-0.250)
Constant	3.363***
	(215.127)
Year FE	Yes
Office FE	Yes
N	90428
Adj. R-sq	0.055

Panel C

	(1)
	Employee performance

54

% New employees	0.131*
	(1.794)
Constant	3.367***
	(374.515)
Year FE	Yes
Office FE	Yes
N	90428
Adj. R-sq	0.055

Panel D

	(1)
	Employee performance
Post × Small office	0.111***
	(4.218)
Post	-0.013
	(-0.519)
Small office	0.052**
	(2.081)
Constant	3.284***
	(127.851)
Year FE	Yes
Office FE	Yes
N	90428
Adj. R-sq	0.056

Panel E

	(1)
	Employee performance
Post × Short tenure	0.044**
	(2.389)
Post	0.004
	(0.130)
Short tenure	-0.131***
	(-8.237)
Constant	3.485***
	(201.110)
Year FE	Yes
Office FE	Yes
N	90428
Adj. R-sq	0.061

Panel F

	(1)
	Employee performance

Post × % New senior managers	1.240***
	(3.604)
Post	-0.009
	(-0.361)
Constant	3.320***
	(169.047)
Year FE	Yes
Office FE	Yes
N	90428
Adj. R-sq	0.056

Panel G

	(1)
	Employee performance
Post× Low culture	-0.031
	(-1.224)
Post	-0.004
	(-0.149)
Constant	3.185***
	(161.949)
Year FE	Yes
Office FE	Yes
N	56145
Adj. R-sq	0.048