# Using a 360-Degree Assessment System to Promote Core Values: A Field Experiment in a Retail Chain

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**Abstract:**

We analyze the effects of a field experiment introducing a values-based 360-degree assessment system at an Indian retailer. The retail chain's managing director intended to encourage store managers, whose compensation was based on high-powered incentives linked to financial results, to not only pursue values related to short-term goals but also values capturing the organization's long-term goals. We explore the overall effect of the intervention, as well as organizational factors that might accentuate the evaluative and developmental mechanisms underlying the 360-degree assessment system. On average, we find no improvements in performance associated with pre-existing short-term monetary incentives, or in nonfinancial performance dimensions linked to values related to long-term goals. However, we find that the 360-degree system had more favorable effects for stores with greater promotion opportunities, and with greater ability to pursue organizational values (captured by the store manager's tenure, our proxy for tacit knowledge). We integrate into our analysis qualitative information from interviews and find that management behavior that could be perceived to be inconsistent with the spirit of the system (i.e., delaying salary payments) has a detrimental effect on the intervention, leading to worse performance. Our findings highlight important factors for successfully implementing values-based 360-degree systems as complements to explicit incentives.

# 1. INTRODUCTION

In this paper, we study the implementation of a *values-based 360-degree performance assessment system*, that is, one designed to communicate and reinforce an organization's core values. We do so in a setting with pre-existing high-powered incentives explicitly linked to financial results (hereafter, high-powered explicit incentives). High-powered explicit incentives can motivate employees to behave entrepreneurially but can also lead to an excessive focus on short-term, individual-wealth-maximizing activities at the expense of values associated with long-term organizational goals (Holmstrom and Milgrom 1991; Baker, Gibbons, and Murphy 1994). Many organizations use performance assessment systems promoting not only short-term results but also long-term organizational values. In a WorldatWork survey of 254 human resource managers from a diverse set of large firms, 72% of the respondents indicated that their company's performance evaluation process reflected organizational core values to a significant extent.[1] This percentage was even higher (80%) among respondents from companies relying on performance evaluations incorporating multiple raters (48% of the survey respondents). We study whether and under what conditions a 360-degree system promoting corporate values led to changes in performance and behaviors consistent with those values and actionable within a short timeframe.

360-degree performance assessment systems are designed to provide a complete evaluation from multiple raters: the ratee, his or her subordinates, supervisors, peers, customers, and so on (London and Smither 1995). 360-degree systems are typically used to evaluate not only performance but also behaviors—such as fostering innovation, empowering employees, and

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[1]  This is the percentage of respondents indicating that the extent to which their company's performance evaluation process reflected guiding principles/corporate values was 5 or greater on a Likert scale ranging from 1 ("not at all") to 7 ("to a large extent"). WorldatWork conducted this survey in collaboration with several researchers cited in the reference list (WorldatWork 2019). The survey included organizations from multiple industries including a large number of employees (on average, between 2,500-5,000 employees).

promoting teamwork—that are associated with value creation but are otherwise difficult to measure (London and Beatty 1993). In fact, scholars have emphasized the role of 360-degree systems in shaping organizational culture and introducing/reinforcing corporate values (London and Beatty 1993; London and Smither 1995).

Research has examined the performance effects of 360-degree systems by comparing initial ratings to subsequent ratings and found only modest improvements (e.g., Smither, London, and Reilly 2005). Our study extends this line of research by: (a) examining the introduction of a values-based 360-degree system in a common but previously unexamined setting—that is, in an organization with high-powered explicit incentive contracts implementing a 360-degree system not linked explicitly to rewards; (b) uncovering and testing conditions under which 360-degree systems are more or less likely to be effective (a gap in the literature identified by scholars such as Smither, London, and Reilly 2005); and (c) examining the effects of a 360-degree system using objective performance measures rather than *perceptions* of performance captured by the ratings of the 360-degree system. Studying the effectiveness of a values-based 360-degree system in such a context is important because many organizations provide high-powered explicit incentives—allowing employees to pursue personal financial goals with significant freedom—but wish to encourage employees to use their freedom wisely, pursuing their short-term financial success without compromising the company's values.

A values-based 360-degree performance assessment system not linked to monetary rewards could affect employee behaviors through two mechanisms: (a) an evaluative mechanism providing implicit incentives, especially to employees interested in pursuing a career within the organization; and (b) a developmental mechanism through which employees (both raters and ratees) learn about desired behaviors that create value in the organization. Conversely, in the presence of high-

3

powered explicit incentives, values that are included in a 360-degree system but not linked to pay may be ignored. We examine the overall effectiveness of such a system in shaping employee behavior, as well as organizational conditions that may strengthen the underlying mechanisms, thereby affecting the outcomes of the implementation.

For this study, we partnered with a growing retail chain in a major city in India that had traditionally compensated store employees with high-powered explicit incentives based on financial performance. While congruent with some of the firm's overall values—specifically those related to working hard—these incentives had also introduced behaviors (such as deceiving customers and gaming the system) that were detrimental to other firm values aligned with the organization's long–term goals. When the company was sufficiently small, the managing director could personally shape and monitor the behaviors of employees through direct informal communication of her vision and values and by working alongside store teams in their stores. However, as the company scaled up, she needed a more formal system to communicate and uphold the company's vision and values. Management therefore introduced a values-based 360-degree assessment system in tandem with a formalized vision and core values.

The 360-degree system was not tied to any new monetary incentives and was centered on the store manager. Appraisals were based on surveys evaluating store managers and were completed by the store managers themselves, their staff, and their supervisors. The survey questions were arranged by the company's core values, capturing the behaviors desired by senior management. Appraisals also incorporated information from a separate survey used to capture customers' experiences at the store. The goal was to emphasize employee development by communicating corporate values to raters and ratees, and to provide feedback and coaching to store managers, who were, in turn, expected to influence their teams' behaviors and performance. A secondary objective

was to communicate what behaviors mattered for career advancement and to identify employees suitable for promotion. Existing monetary incentives, unrelated to the 360-degree system, were kept.

The 360-degree system (as well as the core values and vision) was introduced in a randomly selected treatment group comprising half of the chain's stores in order to test its effectiveness. We compare the performance of treated stores with that of control stores before and after the introduction of the 360-degree system, and we examine conditions that likely moderated the evaluative and developmental mechanisms. Our sample period ends *before* any feedback was provided to store managers at treated stores;[2] thus, rather than documenting the feedback effects of a 360-degree values-based system, we examine its effects on the behavior of employees formally learning about, and expecting to be evaluated on, the company's core values. Our main dependent variables are company–values–related metrics capturing dimensions of performance that could be influenced by the store staff within a short timeframe (i.e., sales, customer service, and honesty).

We identified two conditions that could have made the 360-degree system more or less effective across stores based on theoretical arguments and qualitative insights gained from interviews conducted after the system's implementation. These conditions are: (a) heterogeneity in *promotion opportunities* across stores, potentially affecting the strength of the evaluative mechanism associated with the system; (b) variation in the *store managers' tacit knowledge* with respect to the core values (derived through greater exposure to, and experience working with, top management), potentially affecting the strength of the developmental mechanism of the system to

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[2] We provide justification for this design choice in section 3.3.

the extent that such knowledge could help store managers model behaviors aligned with the core values and facilitate the development of such behaviors within their teams.

Our interviews also revealed conditions that could have led to a less effective intervention, where management did not seem to exemplify two of the core values underlying the 360-degree system, which required salespeople to provide great customer service and to be honest and trustworthy., Some salespersons claimed that management did not provide them with enough inventory to provide great customer service. Some others questioned the company's trustworthiness as they were not always paid on time. We exploited variation in inventory levels and in late payments to examine the impact of these hygienic factors on the effectiveness of the intervention.[3]

We find no significant average effects attributable to the intervention on any of the measures associated with the company's core values. However, we document variation in the 360 degree-system's effects depending on the organizational conditions analyzed. First, the intervention had a more positive effect in stores where the evaluative effect of the 360-degree system was likely to be more salient: for every standard deviation increase in promotion opportunities, a treated store experienced a 123% increase in sales (consistent with the system promoting a core value related to hard work), as well as a 19.5 percentage point increase in the Net Promoter Score (NPS) given by the store's customers and an increment of 10.1 points in the percentage of invoices including bundles (consistent with the system promoting a core value related to providing better service and more comprehensive solutions to customers). Second, the values-based 360-degree system had a more significant effect on behaviors associated with the core value related to providing better

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[3] Herzberg (2002) describes hygiene factors as those that can cause job dissatisfaction – getting these factors right will not lead to job satisfaction, but getting them wrong can lead to dissatisfaction. Hygiene factors include, amongst others, working conditions, company policy, salary, and job security.

customer service where the developmental effect of the 360-degree system was likely to be more salient: for every additional year a store manager was with the company (increasing his [4] experience working with the managing director, and hence his tacit knowledge pertaining to behaviors aligned with the core values), the intervention was associated with a 9.8 percentage points increment in the *NPS* score, and with a 0.11 and 0.09 increase in the average scores (based on a 1-5 Likert scale) provided by customers when rating the store staff's *Politeness* and *Helpfulness,* respectively.

Lastly, consistent with our post-intervention interviews, we also find that the intervention had a negative effect in treatment stores relative to control stores where employees were paid later than at other nearby stores. These stores experienced a decline in the *NPS* and the *Politeness* and *Helpfulness* ratings following the implementation of the 360-degree system. These results suggest that a values-based 360-degree system is likely to demotivate rather than motivate employees to incorporate core values in everyday operations if those employees perceive that the company is not keeping its end of the bargain.

We offer several contributions to the literature and to the practice of management accounting. First, as explained earlier, we extend the academic knowledge of the effects of 360-degree performance assessment systems. Second, we contribute to the literature on mechanisms to improve performance without explicit monetary incentives. We find conditions where a values-based 360-degree system can have a positive incremental effect on financial and non-financial performance in the absence of additional tangible rewards. Prior work has examined other mechanisms unrelated to monetary incentives that may motivate employees to improve performance, such as transparent performance feedback (Bernstein and Li 2017), relative

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[4] In our setting, store managers are all male and in their 20s.

performance information (Blanes i Vidal and Nossol 2011), and recognition (Bradler, Dur, Neckermann, and Non 2016, Gallani 2020).

Third, we contribute to the literature examining the use of multiple performance measures (e.g., Ittner, Larcker, and Randall 2003; Campbell 2008; Hall 2008), here in the context of a 360-degree assessment system. Our results are consistent with the conjecture that the introduction of a values-based 360-degree survey may be more effective under certain conditions, specifically where employees have higher implicit incentives due to promotion opportunities and/or greater ability and guidance to implement multiple values due to their possession of tacit knowledge, and where employees perceive that top managers are also adhering to the espoused values themselves.

The rest of the paper is organized as follows: Section 2 reviews the literature and states our hypotheses. Section 3 describes our field setting and field experiment. Section 4 presents our empirical analyses. Section 5 contains qualitative insights from interviews and supplementary analyses. Section 6 concludes.

## 2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The accounting and economics literatures have long suggested that organizations using explicit rewards tied to financial results could improve goal alignment by adding subjective performance assessments (Baker et al. 1988; Ittner and Larcker 1998; Prendergast 1999). Financial measures have several limitations: they are transaction-oriented, backward-looking, and unable to capture the value of many intangible assets affecting future outcomes (Kaplan and Norton 1992; Merchant and Sandino 2009). Subjective performance assessments can contribute to promoting behaviors – such as teamwork, integrity, and a positive attitude – aligned with the company's mission and values, beyond those promoted by explicit rewards (Baker et al. 1994; Gibbs et al. 2004).

While subjective assessments are often performed solely by an employee's supervisor, many organizations use 360-degree performance assessment systems to gain a more complete view of employee performance by also including self, peer, subordinate and customer assessments, including closed- and open-ended questions on important behavioral dimensions reflecting a company's core values (London and Beatty 1993, WorldatWork 2019). Even if a 360-degree system is not explicitly linked to incentive rewards, it can intrinsically motivate employees naturally aligned with the company's values (van Knippenberg 2000; Akerlof and Kranton 2005) and/or it can provide implicit incentives to behave according to corporate values if the employees see the system as a tool to reach desired outcomes such as discretionary monetary rewards or promotions (Pierre and Lawler 1986, Boswell and Boudreau 2002). Scholarly work and survey reports indicate that the use of 360-degree systems to highlight corporate values is widespread (London and Smither 1995; WorldatWork 2019).

We examine the performance effects of an implementation of a 360-degree system not linked to monetary rewards, designed to state and reinforce organizational values in a setting with preexisting explicit incentives. More importantly, we examine two conditions that could render such a values-based 360-degree system more effective: 1) greater promotion opportunities, which should act to strengthen the evaluative mechanism of the system, and 2) greater tacit knowledge possessed by the store manager with respect to executing company values, which should better foster the developmental mechanism.

**2.1 Effects of a Values-Based 360-degree Assessment System in a Setting with Explicit Incentives**

It is possible that a company's explicit incentives may overshadow the effects of a values-based 360-degree assessment system not tied to monetary incentives. Research suggests that

incentive pay directs employees' attention towards the tasks explicitly rewarded and away from other tasks (Holmstrom and Milgrom 1991).

However, a well-designed values-based 360-degree system should contribute to aligning employees to corporate values, including those that are difficult to assess using objective measures, through two mechanisms described and defined in the performance assessment literature (e.g., Boswell and Boudreau 2002): an evaluative and a developmental mechanism. The evaluative mechanism of a performance assessment typically compares an employee's performance with expectations or with the performance of other employees, implicitly affecting the employee's rewards and career prospects (e.g., through discretionary bonuses, promotions, firings, etc.). The evaluative mechanism of a 360-degree system should motivate an employee to exert effort on the dimensions included in the performance assessment. A developmental mechanism of a performance assessment communicates to employees what types of behaviors they should adopt to achieve organizational goals. Through this latter mechanism, a 360-degree system should encourage employees to draw on relevant skills they already possess, to acquire and develop skills that will improve their effectiveness, and to adopt attitudes consistent with the promoted core values.

The management literature has examined the performance effects of 360-degree systems, typically comparing the ratings received by a manager in the initial survey to subsequent ratings (e.g., Avery 2000; Smither, London, and Reilly 2005) and without considering the existence of explicit incentives used in tandem with 360-degree systems.[5] Literature reviews have concluded that research has found only modest improvements in ratings over time and not among all those appraised (Smither, London, and Reilly 2005; Atwater, Brett, and Charles 2007). Smither, London,

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[5] Prior studies have focused on mid-level managers in traditional hierarchies whose compensation presumably is largely fixed pay.

and Reilly (2005) provide several explanations for these limited improvements, including the crudeness of looking at average ratings. [6] Additionally, subjective ratings are inherently subject to bias, which could hinder the ability to detect actual changes in the performance they are supposed to capture. Nonetheless, despite their limitations, 360-degree systems are extensively used in practice. Rather than examining changes in ratings, as in prior research, we focus on analyzing the effects of a values-based 360-degree system on changes in more objective performance metrics aligned with company values that are actionable in the short-term.[7]

Although a values-based 360-degree assessment system could encourage employees to exert effort with respect to *all* of the company's values, either due to implicit incentives from their perceptions of being evaluated or their learning about behaviors that could best support organizational goals, employees may differentially focus their efforts on the different core values. Employees may focus on the core values that are most aligned with performance measures associated with pre-existing monetary incentives, for one of three reasons: (a) their horizon with the company is shorter and/or their discounting of future expected payoffs is higher, leading them to be more responsive to short term rewards (Baker, Jensen, and Murphy 1988; Holmstrom and Milgrom 1991); (b) they may focus on activities they already know how to perform or could easily

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[6] Smither, London, and Reilly (2005) raise concerns about the practice of comparing average ratings at two consecutive times since the ratee might have focused on improving performance related to only a few items and the raters might anchor on their initial impressions. Furthermore, 360-degree ratings are often subject to biases: subordinates typically provide overly lenient ratings of their bosses, fearing retaliation (Smith and Fortunato 2008), and self-ratings tend to be even more lenient and less reliable (e.g., Smither et al. 1995; Atwater et al. 2007). The broader literature on subjective performance evaluations by supervisors typically finds evidence of centrality bias (which takes place when supervisors give subordinates similar ratings rather than distinguishing good from bad performers), and leniency bias (Prendergast 1999; Bol 2011). Finding improvements in overly lenient ratings can be hard, not only due to low variation but also because ratings are capped at the maximum allowed by the scale (ceiling effect).

[7] Values-based 360-degree surveys aim to communicate a company's core values and assess the managers' adherence to those values. Our focus is to assess the effects of a values-based 360-degree intervention using a few proxies that were related to the core values promulgated and that were actionable in the short-term. These proxies are not meant to be comprehensive of all the changes expected from the intervention but are aimed at capturing a few representative behaviors where there should have been a change.

learn rather than actions related to newly emphasized values for which they may lack or be unable to quickly acquire skills (Meglino 1976); or (c) they believe their supervisors will focus on the objective measures included in their monetary incentive contracts to justify 360-degree assessments and related decisions beyond compensation, such as promotions, demotions, or firings. Supervisors may favor such objective measures in their ratings if they consider those measures to be a more defensible way to justify such career-related decisions (Baker, Gibbons, and Murphy 1994, Ittner, Larcker and Meyer 2003, Murphy and Oyer 2003).

Conversely, individuals may focus more on core values not immediately reflected in measures associated with short-term rewards if both, they believe those measures are likely to play an important role in career-advancement decisions, and their concerns with advancing their careers (especially within the firm) are higher (Gibbons and Murphy 1992; Baker, Gibbons and Murphy 2002). Furthermore, the pre-existing incentives may have been sufficiently effective at inducing significant effort such that employees expected little pay off from exerting additional effort above and beyond current levels, choosing instead to focus on the core values further removed from explicit incentives.

Accordingly, we make distinct predictions for the effect of the values-based 360-degree system on well-known desirable behaviors associated with existing explicit incentives and for desirable behaviors supporting values unrelated to those explicit incentives:

> *Hypothesis 1a: The introduction of a 360-degree values-based assessment in a setting with explicit incentives will positively affect behaviors consistent with corporate values already promoted by explicit incentives.*

> *Hypothesis 1b: The introduction of a 360-degree values-based assessment in a setting with explicit incentives will positively affect behaviors consistent with corporate values not promoted by explicit incentives.*

Values-based 360-degree systems might be more effective under certain conditions. We consider two conditions where the mechanisms by which a values-based 360-degree assessment operates could be more salient: (a) where employees have greater promotion opportunities (i.e., when their perceptions of the 360-degree system as an "evaluative mechanism" leading to potential promotions may be accentuated) and (b) where store managers possess greater tacit knowledge with respect to actioning the core values (i.e., when the "developmental mechanism" is more likely to bear fruit through store managers drawing on their existing knowledge to change and develop their own behavior and to provide training and coaching to team members).

**2.2 Promotion Opportunities Accentuating the Evaluative Effects of a Values-Based 360-degree System**

Subjective assessments not explicitly linked with monetary rewards are likely to give rise to implicit incentives, to the extent that employees anticipate some relation between the assessments and managers' decisions impacting their career, such as salary revisions, job assignments, or promotions (Gibbons and Murphy 1992; Prendergast 1999; Campbell 2008). Career concerns can therefore provide important incentives even in the presence of other explicit incentives, as employees attempt to influence their employers' or labor market's beliefs about their abilities and suitability for higher ranked and/or better paid positions (Gibbons and Murphy 1992). Prior accounting research suggests that individuals who have greater opportunities for advancement are more likely to exert effort on dimensions of performance that are relevant to the company even though they are not linked to individual monetary rewards. For example, examining a fast-food chain where promotion and demotion decisions were informed by nonfinancial metrics, Campbell (2008) finds that managers in locations with higher opportunities for promotion performed better on those nonfinancial metrics than managers in other locations.

To the extent that a 360-degree system introduces implicit incentives, it could help align employees with corporate values capturing both short-term and long-term organizational objectives, especially if employees seek career development within the organization and the opportunity to be promoted exists. Additionally, the multi-source nature of the 360-degree system further strengthens the implicit incentive contract by providing top management with comprehensive information for career-related decisions (Prendergast 1999; Loughry and Tosi 2008).

Based on these arguments, we state the following hypotheses predicting that a values-based 360-degree system will be more effective at enhancing alignment where employees' opportunities for promotion are higher.

> *Hypothesis 2a: The introduction of a 360-degree values-based assessment in a setting with explicit incentives will be more positively related to behaviors consistent with corporate values already promoted by explicit incentives in units offering greater opportunities for promotion than in other units.*

> *Hypothesis 2b: The introduction of a 360-degree values-based assessment in a setting with explicit incentives will be more positively related to behaviors consistent with corporate values not promoted by explicit incentives in units offering greater opportunities for promotion than in other units.*

Notwithstanding the arguments supporting these predictions, employees motivated by greater opportunities for promotion may have already spontaneously incorporated actions aligned with the company's values prior to the intervention, following behaviors modeled by the company's director.

**2.3 Store Manager Tacit Knowledge Accentuating the Developmental Effects of a Values-Based 360-degree System**

One of the main benefits of a values-based 360-degree system is that "it can call attention to important performance dimensions heretofore neglected by an organization, in the process of conveying organizational values." (London and Beatty 1993, p. 361). Such a system communicates what is valued by the company to participating employees (both raters and ratees) and can trigger discussions among employees on how to incorporate corporate values into the diverse aspects of their day-to-day work. The ability of employees to comprehend and implement the core values in their work, however, may vary with the level of tacit knowledge that they possess in this domain.

Tacit knowledge is knowledge that is hard to formalize and communicate, instead being learned "by observation, imitation, and practice" (Nonaka 1994, 19). Thus, "the key to acquiring tacit knowledge is experience" (Nonaka 1994, 19). In a retail chain setting, the tacit knowledge relevant to a values-based 360-degree system is therefore likely to be more developed amongst store managers who have had prolonged exposure to the company's core values by interacting with top management over a longer period of time, leading to greater understanding both of corporate values and of the behaviors needed to incorporate those values into their day-to-day work.[8] For instance, observing the decisions that top management makes when faced with difficult choices—for example whether or not to give up profits in order to address a customer concern that could affect the long-term prospects of the organization—makes clear what values are prioritized (Simons 2010). Thus, store managers with relevant tacit knowledge are likely to be best placed to execute the core values when the values are given greater prominence through the 360-degree

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[8] For instance, at our research site, the employees who had been at the company for a longer time had learned first-hand about the company's values when they worked side-by-side with the managing director, who had defined those values.

system, and to develop not only themselves but also to provide training and coaching to their store team members. Prior research suggests that such training and coaching is necessary to effectively enhance employees' understanding of the values conveyed by a multisource performance assessment system (London, Smither, and Adsit 1997). We conjecture that the introduction of a values-based 360-degree system is more likely to effectively enhance employee understanding of the company's values in units led by managers with greater experience working with top management, who know better how to execute on values and make tradeoffs that reflect those values, and who could transfer that expertise (i.e. their tacit knowledge) to their subordinates.

More generally, prior research has shown that more experienced managers (i.e., managers with greater tacit knowledge) are more likely to lead their units toward making the right tradeoffs to succeed. In a large distribution firm that was introducing a Balanced Scorecard, Griffith and Neely (2009) find that only units with experienced managers could interpret the Balanced Scorecard measures and improve performance. In their words, "When it is necessary for managers and workers to perform a large number of tasks (e.g., the tasks involved in running a retail establishment), it is important that the manager be able to effectively decide where best to put both his and his workers' marginal effort" (p.52). In the specific context of a 360-degree system, Atwater and Brett (2005) document better results when the workers considered themselves to be more competent.

Based on these arguments, we state our third hypothesis:

*Hypothesis 3a: The introduction of a 360-degree values-based assessment in a setting with explicit incentives will be more positively related to behaviors consistent with corporate values already promoted by explicit incentives in units led by managers who possess greater tacit knowledge with respect to how to execute on those corporate values.*

*Hypothesis 3b: The introduction of a 360-degree values-based assessment in a setting with explicit incentives will be more positively related to behaviors consistent with corporate values not promoted by explicit incentives in units led by managers who possess greater tacit knowledge with respect to how to execute on those corporate values.*

Despite these predictions, there exists the possibility that units led by managers with greater tacit knowledge may have already exhibited behaviors aligned with corporate values, resulting in a muted reaction to the introduction of a system geared towards raising awareness about those values.

## 3. RESEARCH SETTING AND FIELD EXPERIMENT

Our research site is a mobile phone retail chain in one of India's main cities (hereafter RETAILER). A typical store has a manager, a cashier, and a team of promoters representing various brands (e.g., Samsung, Nokia, and Vodafone) whose products and/or services are offered. To emulate the entrepreneurial spirit, sense of ownership, and incentives of local mom-and-pop stores—the chain's main competitors—the managers and cashiers are compensated mostly with sales commissions. The promoters are paid by the brands they represent; they are not RETAILER's employees, though they sometimes participate in some of its sales incentive plans.

RETAILER seeks to differentiate itself from mom-and-pop stores by (a) offering a wider selection, (b) bundling products to enhance customers' perceptions of value (i.e., offering custom solutions to fulfill not only the customers' need for smart phones, but also for credit, insurance, complementary accessories, promotional items, talk time, etc.), and (c) providing trustworthy service. The managing director communicates this value proposition to the store staff through personal visits to the stores, weekly store manager meetings at headquarters, and communications via email and the company's information system. She also strongly enforces the focus on

17

trustworthy service by penalizing—sometimes firing—employees for unethical behavior such as theft and misleading customers.

While a reliance on the managing director's personal interactions with store teams had helped foster a strong company culture, this was not suited to RETAILER's ambitions for expansion. Furthermore, the managing director sought to more strongly encourage store teams, particularly the managers, to focus not only on short-term financial performance (already strongly incentivized by the compensation structure), but also on long-term behaviors needed to build a consistent and profitable brand; for example, building long-term customer relations, providing feedback to team members, and not lowering prices just to make a sale. The managing director decided to implement a values-based 360-degree assessment system to formally communicate and promote the values in the hopes of shaping desired behaviors to an even greater extent.

### 3.1 Store Managers and the Values-based 360-degree System

At the time of the study, RETAILER's store managers were incentivized to behave as owners of the stores that they managed. They could earn generous sales commissions (at higher commission rates for more profitable items) but were also held fully accountable for missing items and for selling items at a loss. On average, store managers' variable pay was roughly 140% of their salary, and the standard deviation of their pay was as large as their salary.[9]

As in most retail chains (Arnold, Palmatier, Grewal and Sharma 2009), RETAILER's store managers played many roles and were considered key drivers of store success: they led their store teams, were responsible for forming good, long-term customer relationships, and communicated inventory and staffing needs to headquarters. They were accountable for the ongoing success of their stores and were expected to model behaviors conducive to the chain's success.

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[9] These calculations are based on data shared by the company relating to store manager payments in July of 2013. The structure of the store managers' compensation at that time was similar to that during our sample period.

A 360-degree system makes it possible to measure performance with respect to all these roles. Since store staff were best placed to observe their manager in day-to-day operations, their assessments could arguably make for a better performance measurement system than one limited to assessments by the manager's supervisor.[10] As London and Beatty (1993, p. 360) note, "Subordinates … may have more complete and accurate information about many leadership behaviors than supervisors have."

By implementing a values-based 360-degree assessment system, RETAILER's management sought not only to formalize and communicate the company's core values and their associated behaviors, but also to gain a complete picture (including insights from open-ended questions) of how each store manager was living those values, so as to provide feedback and coaching. The 360-degree surveys were designed to collect information about each store manager from the store's cashier and brand promoters, the manager's supervisor, the customers, and the manager himself.

The system was intended to be developmental and was presented to employees as a tool to help them grow and increase their chances of promotion (thus, it provided implicit incentives). For the brand promoters, a "promotion" meant being hired as a cashier or store manager. Cashiers were often promoted to store manager and store managers could either be reassigned to more profitable stores (where they could earn significantly higher pay) or be promoted to "store manager coach," to assist nearby stores.

The hope was that with management (a) formally communicating core values, (b) periodically asking store teams and supervisors to consider those values while assessing their store manager's behavior (or, for the store manager, his own), (c) providing feedback to store managers, and (d)

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[10] Store managers reported to district managers (supervising an average of 6 stores each), who, in turn, reported to the managing director. Most of the district managers undertook other responsibilities at the central office (related to HR functions, supply chain, etc.) in addition to supervising the stores.

making it clear that those values would be considered for promotion decisions, the teams would internalize both the values that related to achieving short-term financial results, as well as those associated with behaviors that would contribute to building a successful company brand in the long run. This, in turn, would enable more delegation and less direct monitoring by the managing director (for instance, if store teams could be trusted to behave in the interest of the company's long-term success) and greater work satisfaction and motivation for store teams (Van den Steen 2010).

**3.2 Surveys Used as Input to the Values-based 360-degree System**

The surveys associated with the 360-degree system asked each respondent (the store manager, store members, and the supervisor) to assess the manager on various behaviors, organized by the four core values of the firm: (a) "We gain control of our own career by working hard every day and reaching out for support"; (b) "We give more value"; (c) "We are honest and ethical"; and (d) "We are caring and respectful." Respondents were also asked where the store manager was doing a good job and where he could do better. The survey instrument is shown in Appendix 1.

One customer per store was randomly selected each day for a telephone survey. They were asked about aspects of the service they received (such as the staff's knowledge and politeness) and how likely they were (on a scale of 0 to 10) to recommend RETAILER to a friend. From this question, a store's *Net Promoter Score* (hereafter NPS) can be calculated as the percentage of "promoters" (respondents giving a 9 or 10) minus the percentage of "detractors" (respondents giving a score of 0 through 6).[11] The NPS is a popular metric for customer experience.

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[11] See www.netpromoter.com.

### 3.3 The Field Experiment

Since the managing director was interested in understanding the effectiveness of a values-based 360-degree assessment system (developed and implemented via extensive consultation with the research team), she readily agreed to introduce it as a field experiment, implementing the system in approximately half the stores.[12] While she was enthusiastic, it was unclear whether store employees who had been focused on monetary rewards up to that point would respond to the intervention, or whether they would respond by exerting more effort only on certain performance dimensions (for instance, known behaviors linked to existing incentives or behaviors not linked to incentives but emphasized by the new system).

Store selection was randomized. However, we grouped stores in "blocks" if they were close enough to each other such that contamination effects would be a concern if some participated and others did not. If any store in a block was randomly selected, all stores in the block were then selected.[13] Participants in the selected stores were advised that RETAILER was piloting the system only in certain stores as a first phase of implementing the system throughout the company. During this phase, they were asked not to discuss it outside their store team.

The system was launched with an inspiring presentation and interactive session led by the managing director. The session was held twice, at the end of March 2015 and at the end of April 2015, to include all the selected stores and to help some stores that had difficulties accessing the 360-degree surveys online.[14] The presentation had two parts. The first introduced store teams to

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[12] This opportunity to collaborate with RETAILER arose due to a preexisting relationship between members of the research team and the managing director, who had met at a retailing conference.

[13] Of the 16 treated stores, three were included in one block, four were included in two two-store blocks, and nine were not part of any block. Of the 16 control stores, seven were included in one block, two were included in another block, and seven were not part of any block. Results of parallel trends tests in the pre-period for the treatment and control groups suggest the two groups were experiencing similar trends.

[14] In our empirical analyses we drop all weeks between the first session and the time when the surveys related to the second session were completed by all store team members (7 weeks in total).

the company's competitive strategy and to its newly formalized vision statement and core values (included in Appendix 2), emphasizing the importance of the role of the store managers and store teams to accomplish these values. During the second part, the managing director explained that a 360-degree system was to be implemented at the stores in attendance in order to gain a comprehensive understanding of the support the store manager provided and his commitment to the core values. [15] Attendees were advised that the aggregated survey responses (confidentiality of individual responses was assured) would be used to provide feedback and coaching to store managers. Attendees were then asked to complete the performance appraisal survey (Appendix 1) in a computer lab that was set up for this purpose.[16]

By the end of the second session, 20 RETAILER stores had participated in the launch of the 360-degree system. The feedback sessions were held about three months after the second session. By this time, a couple of treated store managers had moved to control stores (we speak to this further in footnote 22) and a couple of feedback sessions that should have taken place did not, reducing our available sample for the period post the feedback sessions. Further complicating matters, there was some variation in how these feedback sessions were conducted (e.g., whether or not the managing director was present). Hence, we end our post-period right before the feedback sessions.[17] This unintendedly allows us to examine the motivational effects of the 360-degree system implementation, independent of any feedback effects.

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[15] As shown in Appendix 1, this survey included 48 items. The number of items on survey instruments for upward feedback (in which subordinates provide feedback to their superior) and 360-degree feedback systems can vary widely. For instance, the survey in Hazucha, Hezlett, and Schneider's (1993) study had 122 items, while the survey in Walker and Smither's (1999) study had 29 items.

[16] Store staff could complete the survey privately. Store team members missing the session were able to complete the survey privately, outside of the store and away from the store manager.

[17] The absence of feedback in the post-period that we study may have affected the results that we document, but research suggests this is not a significant issue. Smither, London, Vasilopoulos, Reilly, Millsap and Salvemini (1995) find that managers who received individualized feedback in an upward feedback system were no more likely to improve their performance than managers who did not. (In their setting, managers with fewer than three subordinates received only an aggregate organizational report to protect the subordinates' anonymity.) Using the same managers

## 4. RESEARCH DESIGN AND EMPIRICAL TESTS

### 4.1 Research Design

While prior research has studied the performance effects of 360-degree systems by comparing initial ratings with subsequent ratings, we do not study a change in ratings because 360-degree surveys were completed only once during our sample period. However, studying a change in ratings would likely have been relatively uninformative since the surveys completed by the store managers and the store team members (cashier and promoters) were extremely favorable; store managers rated themselves an average of 4.8 (out of 5) across all survey questions, while team members gave them an average of 4.4. Their direct supervisors, however, gave them an average of 3.8, and their customers rated the stores with an average NPS of 33% (which seemed acceptable, compared to average NPS scores of 27% in India and 49% in the United States (Kelly 2019)).

Our interpretation of the highly favorable ratings awarded by the store teams, partly informed by conversations with the managing director, is that it was due to several factors, including store managers wanting to paint themselves in the most favorable light; the team members' lack of familiarity with surveys; the hierarchical nature of Indian society, leading team members to be hesitant to reveal anything negative about their manager; the team members' desire to receive continuous support from their manager; and perhaps influence activities whereby the store managers asked their team members to give them high ratings.[18]

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as in Smither et al. (1995) but studying them longer, Reilly, Smither, and Vasilopoulos (1996) also find that the performance improvements they identify over four administrations of the feedback system (mostly concentrated early in the system) are unrelated to the number of times managers actually received individualized feedback (which varied from zero to three). They conclude: "Our results suggest that the continued administration of an upward feedback program can result in sustained change over a fairly long period of time and actually receiving feedback may be less important than the exposure to the valued behaviors" (p. 599).

[18] Note that despite being Indian herself and spending most of her life in India, it was only in hindsight once the ratings were compiled and summarized that the managing director identified factors that could have contributed to the highly favorable ratings. Before the intervention, the managing director did not expect that the store team members would inflate the ratings so much since (a) the promoters are employed by the supplier brands, hence, they are not direct subordinates of the store managers, (b) team members had an incentive to disclose when their store managers were

Instead of analyzing changes in ratings, we test the effects of the intervention using performance measures that were readily available (or could be easily constructed) from the organization's existing information system as proxies for the desired behaviors highlighted by the 360-degree assessment survey.[19] The chosen measures of performance are (a) related to the core values emphasized by the 360-degree system, (b) responsive to employee actions in the short-term, (c) more objectively measured than those used in prior studies, and (d) less subject to leniency and centrality bias. Furthermore, the availability of a treatment and a control group allows us to better assess causal relations relative to prior studies relying predominantly on initial and subsequent performance assessments under the system itself. Our empirical analyses, described in the remainder of this section, explore the performance effects of the implementation of a values-based 360-degree system.

### 4.1.1 Data and Measures Analyzed

We examine how treated stores performed vis-à-vis control stores on dimensions capturing behaviors related to three of the four core values assessed through the 360-degree system.[20] For the first core value, "*We gain control of our own career by working hard every day and reaching out for support,*" we measure performance using *Ln(Sales),* the natural logarithm of store-level weekly sales; sales performance was already rewarded with monetary rewards in the pre-existing

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not supportive, since their compensation and employment depends on the store manager's support (in the words of the managing director, "[Suppliers] are ruthless, if you don't achieve your target in one month, they will sack you." Note that several organizations in India, including Havells, Hindustan Unilever, State Bank of India, Infosys, Mindtree, and the prime minister's office, have disclosed their use of 360-degree systems in recent years (Financial Express Online 2016; Bhattacharya 2018).

[19] All of the measures we examine pertain to information that had historically been recorded with the exception of the customer surveys, which began shortly before the introduction of the 360-degree feedback system and were the result of our collaboration with the company.

[20] In our setting, we cannot disentangle the effects of communicating the company's vision and values from the effect of formalizing them through a 360-degree system, because the intervention comprised of both factors. We encourage future research to explore the relative effectiveness of these two components of the intervention.

incentive system.[21] For the second core value "*We give more value,*" we capture performance using four store-week-level metrics, none of which were explicitly rewarded with monetary incentives nor formally tracked/communicated to store teams: (a) three from a customer survey conducted by the company, specifically the net promoter score (*NPS*) and scores capturing customers' perceptions of how polite and helpful the sales associates were (*Politeness* and *Helpfulness*, respectively), and (b) the percentage of invoices that included bundles of products and/or services (*% Invoices with Bundles*), reflecting the sales associates' selling of complete solutions to customers. We measure performance on the third core value "*We are honest and ethical,*" with an indicator identifying the incidence of unfavorable outcomes of periodic random audits (*Failed Audit*). The company audited each store approximately once a month to assess the correspondence between (a) inventory and cash represented in the local ledgers and (b) their physical presence in the store.[22] Store managers were directly responsible for any unfavorable deviation and were penalized with pay deductions equivalent to the value of the missing assets. No suitable objective measures were available to evaluate performance on the fourth core value, "*We are caring and respectful.*" Therefore, we excluded this dimension of performance from our analyses. All measures were discussed with the managing director, who approved them as appropriate proxies representative of the underlying dimensions of performance that she intended to emphasize with the 360-degree system. Appendix 2 lists the measures we use to capture these dimensions of performance and their corresponding core values.

For our analyses of organizational conditions influencing the evaluative and developmental mechanisms underlying the 360-degree system, we define the variable *Promotion Opportunities*

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[21] The weekly sales amounts are net of customer returns.

[22] Note that our sample size for our analyses using audit results as the dependent variable is relatively small because not all stores were audited each month, and we dropped any observations pertaining to stores that did not have at least one audit in both the pre- and the post-period. Consequently, we have low power to detect effects.

as (# stores) / (# sales teams' members competing for promotion within a 1-mile radius), [23] and the variable *Tenure*, our proxy for the store manager's tacit knowledge, defined as the number of years of employment recorded for the store manager, computed at the time of the introduction of the 360-degree system. All variables used in our empirical tests are defined in Appendix 3.

In late May and early June 2015 (that is, a little over a month after the system launched), we asked an assistant in India (identified by the managing director) to conduct follow-up interviews on our behalf to gauge the sentiment of the employees with respect to the 360-degree system and enhance our interpretation of our quantitative analyses. Fourteen store staff members (two store managers, three cashiers, and nine promoters) from five stores randomly selected from the treated stores were interviewed using a structured interview questionnaire (see Appendix 4).

Our sample includes weekly observations for 32 stores (16 each in the treatment and control groups) spanning 22 weeks, of which 11 are prior to the intervention (pre-period) and 11 are subsequent to the week when all the store employees affiliated with the treated stores completed the 360-degree surveys (post-period).[24, 25] We drop any post-period observations subsequent to the departure of a treated store manager if there was no replacement during our sample period and any post-period observation in which a control store is contaminated by a treated store manager being

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[23] The number of sales teams' members competing for promotion is calculated as the median number of sales teams' members working at store $i$ in the pre-period, plus the median number of sales teams' members working at stores within a one-mile radius from store $i$ in the pre-period. The number of stores in the one-mile radius includes store $i$ to account for the cashier's opportunity to be promoted to store manager and the opportunity of the store manager to be promoted to store manager coach. We describe the opportunities for promotion in greater detail in section 4.2.2.

[24] Our initial sample included 39 stores (20 in the treatment group and 19 control stores). Of these, seven were dropped. Two stores that were supposed to be included in the treated group were eliminated because their store managers did not complete a 360-degree survey (in the first case, the store manager had been temporarily reassigned to a control store in April 2015; in the second case, the store manager was absent at the time of the intervention). Another store was dropped because it opened immediately before the sample period and closed immediately after it. In the case of two other stores, the store team participated only in the core values session and not in the 360-degree survey. One control store was contaminated by the reallocation of a treated store manager immediately after the intervention. One store team identified the cashier as the (acting) store manager, but the cashier himself did not self-identify as store manager in his survey.

[25] Our pre-period includes the 11 weeks preceding the first launch to keep correspondence between the length of the pre-period and the length of the post-period, in line with Charness and Gneezy (2009).

reassigned to it. Our final sample includes 694 store-week observations. We have fewer observations for our *NPS, Politeness,* and *Helpfulness* measures, since the customer surveys began only three weeks before the 360-degree system was first launched, as well as for the *Failed Audit* variable, since stores were randomly audited on average once a month.

Table 1 summarizes descriptive statistics for the variables of interest. Sales exhibit significant variation across store-weeks. Despite some instances of a perfect score (100%), *NPS* is at or below 33% for half of the sample.[26] Measures of sales associates' politeness and helpfulness span across the 1-5 Likert scale, and present, on average, opportunities for improvement. The *% Invoices with Bundles* is below 34% for three-quarters of the sample, suggesting opportunities to offer greater customer value by cross-selling products and services. Dysfunctional behaviors seem pervasive, further justifying the need for the intervention. *Failed Audit* is equal to or greater than 1 for at least half the sample. With few exceptions (only 4.45% of the store-weeks analyzed), stores operate every day of the week each week.

----- Insert Table 1 here -----

Table 2 reports the Pearson correlation coefficients calculated across all of our variables of interest. Interestingly, sales are negatively correlated with our measures associated with the quality of customer service, which could suggest that high traffic stores were understaffed or that aggressive sales tactics were taking place among the sales teams. As expected, the measures extracted from the customer surveys are internally consistent, with positive correlations between *NPS, Helpfulness*, and *Politeness*. Sales are also positively correlated with cross-selling *(% Invoices with Bundles*) and negatively correlated with the availability of inventory on hand

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[26] In the analysis of variables obtained from the customer surveys (i.e, *NPS, Politeness*, and *Helpfulness*), we eliminate two stores for which we had only post-period observations. We also calculated alternative versions of the NPS variable in line with Casas-Arce, Lourenço, and Martínez-Jerez (2017) and estimated all statistical models with these alternative measures, obtaining equivalent results.

(*Average DSI in the Pre-Period*). Greater opportunities for promotion (*Promotion Opportunities*) are associated with lower sales and lower incidence of *Failed Audits*, suggesting that sales teams may focus on a broader set of behaviors in line with long-run organizational values. Store manager changes are more likely in stores with greater opportunities for promotion. Our overall assessment of the correlations among our predictors is that the risk of collinear relations in the definition of our statistical model is not material.[27]

----- Insert Table 2 here -----

*4.1.2 Analysis of the Average Effects of the Intervention (H1a and H1b)*

Our first set of hypotheses captures our predictions with respect to the effect of the intervention on dimensions of performance connected with the pre-existing monetary incentive system, and on dimensions of performance not connected with the existing incentive system. We test these hypotheses using the following difference-in-differences statistical model:

$$Performance_{i,t} = \alpha + \beta_1 Post_t + \beta_2 Post_t * Treatment_i + \beta_3 Store\ Manager\ Change_{i,t} + \beta_4 Sales\ Days_{i,t} + \beta_n(Store\ Fixed\ Effects) + \varepsilon \qquad (1)$$

where the dependent variable *Performance* is substituted by each of the dependent variables described above; the indicator variable *Post* equals 1 if week *t* is after the implementation of the 360-degree system, and 0 otherwise; the indicator variable *Treatment* equals 1 if the system is implemented in store *i*, and 0 otherwise;[28] the indicator variable *Store Manager Change* equals 1 if the manager of store *i* was different in week *t* than at the time of the intervention, and 0 otherwise; and *Sales Days* is the number of days in the week where the store had at least one sales transaction. To account for unobservable factors associated with each particular store, all our estimations

[27] We corroborate our conclusion by running several tests of collinearity in the estimation of the coefficients in our model. For example, VIFs are all below 2.
[28] The main effect of *Treatment* does not appear in Equation (1) since it is absorbed by the store fixed effects.

include store fixed effects. All variables included in our statistical analyses are described in Appendix 3.

*4.1.3 Analysis of Organizational Factors Moderating the Effect of the Intervention (H2a, H2b, H3a, H3b)*

We explore the moderating effect of organizational factors that are likely to influence the response to the introduction of a values-based 360-degree assessment system. In particular, our second set of hypotheses (*H2a* and *H2b*) predicts that the availability of greater opportunities for promotion will accentuate the evaluative mechanism of a 360-degree assessment system, thus leading to greater performance improvements in stores with greater promotion prospects. To the extent store members saw the 360-degree system as an evaluative mechanism, the system could give rise to stronger implicit incentives in locations with greater opportunities for promotion. In our setting, those opportunities arose wherever the number of potential manager and cashier positions per employee was greater. The most attractive jobs for the promoters were the cashier and the store manager roles (which consisted of two unique positions per store). Cashiers could aspire to become store managers and store managers could be promoted to the role of store manager coach for multiple stores. Furthermore, based on the explicit incentives in place in the organization, store team members could aspire to be transferred to a store offering greater earnings potential.

In our third set of hypotheses (*H3a* and *H3b*), we examine whether the effectiveness of the 360-degree system depended on the store manager's tacit knowledge with respect to executing the core values, derived from experience working with top management. We posit that greater store manager experience in the organization and familiarity with the core values enhances the developmental mechanism of the 360-degee system. That is, to the extent the effectiveness of the

intervention depended on the store managers' ability to coach, guide, and develop their teams, we expected the store managers' experience working with top management to be a driver of the system's success. Longer tenured employees at our site had had more exposure to top management, especially because the company had been founded ten years prior to the intervention analyzed in this study and the managing director had personally coached and developed the early store staff at the company in a way that made them more aware of the company's core values.

To examine whether these organizational factors moderated the effect that the 360-degree system had on the outcomes analyzed, we estimated the following model:

$$
\begin{aligned}
Performance_{i,t} = \alpha &+ \beta_1 Post_t + \beta_2 Post_t * Treatment_i + \beta_3 Post_t * Moderator_i \\
&+ \beta_4 Post_t * Treatment_i * Moderator_i + \beta_5 Store\ Manager\ Change_{i,t} \\
&+ \beta_6 Sales\ Days_{i,t} + \beta_n (Store\ Fixed\ Effects) + \varepsilon \qquad (2)
\end{aligned}
$$

When performing our multivariate tests of *H2a* and *H2b*, we substituted *Moderator* with *Promotion Opportunities*, while in our tests of *H3a* and *H3b*, *Moderator* was substituted by *Tenure*. Because our moderator variables are defined as time-invariant, store-level characteristics and all our estimations include store fixed effects, the interaction between *Treatment* and *Moderator* is subsumed in both cases. Since we observe repeated measures of performance for each store in our sample, standard errors are clustered by store in all our estimations.

**4.2 Results of Statistical Tests**

*4.2.1 Multivariate Tests of the Average Effects of the Intervention (H1a and H1b)*

We perform separate OLS estimations of Equation (1) for each of our six dependent variables of interest. Since Equation (1) is specified using a difference-in-differences approach, our primary coefficient of interest is $\beta_2$, which is associated with the interaction term (*Post\*Treatment*). Contrary to expectations, we find no significant differences between treated and control stores in

the post-implementation period with respect to any of our dependent variables. Therefore, our analyses provide no empirical support for *H1a* or *H1b*.

----- Insert Table 3 here -----

Descriptive evidence gleaned from interviews indicates that the staff members viewed both the session launching the 360-degree system and the completion of the related surveys positively. They expected the system to yield several beneficial effects including enhancing transparency, motivating employees, improving the store environment and teamwork, facilitating support from senior management, and developing store team members. They understood that the system involved obtaining information about their store manager's performance and some respondents mentioned that the purpose of the system was to motivate the store manager and/or help him to grow/improve. Despite the positive perceptions of the system, however, our interviews revealed some potential issues related to the understanding and recall of the core values.[29] Insufficient reinforcement of the core values[30] could explain, in part, the lack of average results for the intervention.

The overall positive reception of the intervention, however, further highlighted the importance of understanding the impact that organizational factors may have on the effectiveness of the introduction of a values-based 360-degree assessment system.

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[29] Very few of the fourteen interviewees could recall the core values. Those that said they could recall them provided only partial descriptions of the values: an interviewee recalled one core value correctly, and not the others; another interviewee recalled one core value correctly and recited a second core value that was a blend of two actual ones; and a third interviewee listed four core values, none of which were correct but were related to the core value of working hard. Of the two store managers interviewed, one recalled the core values partially, while the other did not recall them but said that he knew what they meant once the interviewer showed them to him.

[30] To contain the risk of contamination between our treated and control stores, participants to the intervention launch event were not allowed to keep a copy of the core values. Additionally, for the same reason, management did not make any reference to the core values during the weekly meetings with the stores, as those meetings involved participants from both the treatment and control groups of stores.

*4.2.2 Multivariate Tests of the Moderating Effects of Promotion Opportunities Accentuating the Evaluative Effects of the 360-degree System (H2a and H2b)*

Table 4 reports our OLS estimation results of Equation (2) where *Moderator* is substituted by *Promotion Opportunities*. The coefficient associated with the moderation effect ($\beta_4$) is positive and significant for three of our dependent variables: *Ln(Sales)*, *NPS* and *% Invoices with Bundles*. Specifically, in stores where the 360-degree system was introduced, a one standard deviation increase in promotion opportunities (standard deviation=0.118) is associated with about 124% increase in revenue, a 19.5 percentage point increment in the *NPS* score, and a 10.1 point increment in the percentage of invoices including bundles.[31] In other words, the 360-degree system was associated with more favorable changes in sales, customer satisfaction, and cross-selling, the greater the stores' opportunities for promotion.[32]

These results are consistent with insights from our interviews, where some of the store team members expressed excitement about how the 360-degree system could help them improve, develop, and grow within RETAILER. In one of our conversations with the managing director, she highlighted that some brand promoters had mentioned that they were especially interested in the intervention because it gave them guidance on how to work towards being promoted to a cashier or store manager position.

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[31] For ease of interpretation of the estimated coefficients, we have mean-centered the variable *Promotion Opportunities*.

[32] We subject our statistical analyses to the following robustness tests; (1) we limit the sample to stores with no change in store manager in the post period; (2) we include one extra week at the beginning of the post period to account for the fact that most (but not all) employee surveys had been completed by that week; (3) we control for the number of days in which the store is open instead of the number of days in which there is at least one sale, to account for the possibility that some stores may not sell anything on some days; (4) we drop the stores for which there is no store in a one-mile radius; (5) we add week or month fixed effects in our model. All of our results hold, with the exception of the case in which the dependent variable is *% Invoices with Bundles* when the sample excludes stores with no "close stores."

Taken together, our analyses suggest that promotion opportunities moderated the impact of the introduction of the values-based 360-degree system on performance dimensions both related and unrelated to pre-existing explicit incentives (consistent with both *H2a* and *H2b*), motivating the store staff to exert effort both on short-term and long-term objectives inherent in the company's values.

----- Insert Table 4 here -----

*4.2.3 Multivariate Tests of the Moderating Effects of the Store Manager's Tacit Knowledge Accentuating the Developmental Effects of the 360-degree System (H3a and H3b)*

Results of an OLS estimation of Equation (2) where *Moderator* is substituted by *Tenure* (our proxy for tacit knowledge) are reported in Table 5. While we find no evidence of a moderating effect of tenure with respect to financial metrics already rewarded by explicit incentives (i.e., *Ln(Sales)*), inconsistent with our prediction in *H3a*, we find that tenure moderates performance effects with respect to *NPS* ($\beta_4$=0.098, p<0.01), *Politeness* ($\beta_4$=0.105, p<0.05), and *Helpfulness* ($\beta_4$=0.092, p<0.05), consistent with *H3b*. This suggests that, in treated stores, for every year a store manager was with the company, the 360-degree system led to a further 9.8 percentage point increment in the *NPS* score, and increases in the average score associated with *Politeness* and *Helpfulness* of 0.11 and 0.09 respectively.[33] The fact that the store manager's tenure had a stronger impact moderating the 360-degree effects on long-term performance dimensions rather than short-term dimensions already included in explicit incentives makes sense, since the former are the areas where employees were more likely to need to develop new skills.[34]

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[33] Recall that *Politeness* and *Helping* are assessed on a scale from 1 to 5.
[34] Our results are robust to the alternative specifications described in footnote 32, with the exception of the regression in which the dependent variable is *NPS*, which yields no significant coefficient associated with the interaction term of interest when we drop the stores with no close stores from our sample.

The results in this section are also consistent with a comment made by the managing director who noted that, following the intervention, several employees approached her to ask how they could create long-term relationships with their customers (a skill that they realized they needed to implement the core value "*We give more value*"). In her words: "They are asking, 'How do we live [the "We give more value" core value] daily? We have too many customers that walk into our stores. So how do we build a relationship with our customers? How would you do it?'" In this context, our quantitative and qualitative results suggest that the 360-degree system could be more effective where store managers had the knowledge and experience necessary to help their teams embrace the company's values.

----- Insert Table 5 here -----

## 5. SUPPLEMENTARY ANALYSES

In this section, we discuss supplementary analyses that we ran to explore two additional conditions, uncovered during our follow-up interviews with store team members and with the managing director, that may have moderated the effectiveness of the values-based 360-degree system. Specifically, we explore whether the effects of the 360-degree system were contingent on a store's availability of inventory or delays in salary payments.

In a study of a utility company that implemented 360-degree feedback, Hazucha, Hezlett, and Schneider (1993) reported that employees indicated that they tried harder to improve when they saw greater support from managers. Our interviews revealed that several staff members had complaints regarding managerial support: 29% complained that they lacked support related to performing their jobs (e.g. a lack of inventory) and 29% complained about salaries not being paid on time.[35] Such issues could potentially lead to demotivation amongst store teams and could,

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[35] These complaints did not extend to the managing director however, who was generally considered to be supportive.

therefore, not only mute the effect of the intervention, but even elicit negative reactions to management's request to further improve performance. We conjecture that store managers feeling that the organization did not support them or did not hold up their end of the deal might have perceived management's request to take on additional responsibilities related to the RETAILER's core values to be unreasonable or unfair. We, therefore, explore the influence that these hygienic factors might have had on the effectiveness of the intervention.

## 5.1 Availability of Inventory

Margins for mobile phone sales are generally small and procurement of inventory requires significant investments in working capital; the devices are largely pre-paid by the retailer and risk obsolescence and damage if kept in-store too long. As a result, management faced a constant trade-off between minimizing the stock on hand and risking that the stores may not always have what the customer wanted or enough items to sell bundled solutions.

We explore whether the availability of inventory moderates the performance effects of the 360-degree system by estimating Equation (2) and substituting the variable *Moderator* with *Highest DSI*, a measure capturing the provision of inventory support, equal to 1 if the store was in the highest quartile of the distribution based on days of sales in inventory (DSI) in the pre-period, and 0 otherwise. DSI, which is calculated as the ratio of average inventory balance and the average cost of goods sold per day, represents the number of days required to convert the stock on hand into sales in a given period. A higher DSI indicates greater availability of inventory on hand. We measure average DSI for each store over the months included in the pre-period.[36] We then partition the distribution of pre-period average DSI into four quartiles. Our assumption is that inventory availability might not influence store performance in a continuous manner; rather, there might be

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[36] Our choice is informed by the possibility that changes in sales performance subsequent to the implementation of the 360-degree system might impact the DSI measure even in the absence of changes in inventory management policy.

discontinuities in the relation. Since the company placed more inventory in certain stores, to use them as hubs, we assumed that those stores would be better equipped than others to improve their performance in response to the introduction of the 360-degree system. We identify stores with the highest DSI (at or above the 75th percentile of the distribution).[37]

Table 6 reports the estimation results when we measure managerial support based on the *Highest DSI* indicator. Contrary to our expectations, we found no moderating effect of availability of support on any of our dependent variables.[38]

----- Insert Table 6 here -----

### 5.2 Delays in Salary Payments

Occasionally, management retained cash payments related to store employees' compensation for a few days for different reasons (e.g., as it tried to resolve issues such as stock missing from those particular stores).[39] We use *Late Payment* as an additional variable capturing (lack of) managerial support. This is an indicator variable equal to 1 if the store manager of the store was paid after half of the store managers working in close stores (i.e., stores within a 1-mile radius) at least one time during the pre-period, and zero otherwise. Table 7 shows that stores where the store manager was paid late in the pre-period reacted negatively to the introduction of the values-based 360-degree system, with *NPS* 48 percentage points lower, the *Politeness* score 0.8 points lower, and the *Helpfulness* score 0.6 points lower in the post-period, relative to changes in other treatment stores. Coupled with the unexpected result that, following the 360-degree system, these stores also reported an increase in cross-selling relative to other treatment stores (with the percentage of

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[37] In untabulated analyses, we adopted a discontinuity at the median value of the distribution of DSI and found no significant moderating effects. We also tested the relation using the continuous distribution of DSI and found no significant relations (untabulated tests).

[38] Our findings do not change if we adopt the specifications described in footnote 32 as our set of robustness tests.

[39] RETAILER had a policy by which staff members were held accountable for any missing items from the inventory, as well as any cash discrepancy in the store. Payment of wages were delayed while management acted to reconcile any differences and investigated possible causes.

invoices including bundles being about 7-points higher), these results suggest a potential increase in the store teams' reliance on aggressive sales tactics.[40]

----- Insert Table 7 here -----

The results of this study were informative to the managing director, who then took steps to further promote and clarify the company's values and to improve support, including paying salaries on time and increasing support to store managers through coaching and systems.


## 6. CONCLUSIONS

This study documents the results of a field experiment conducted in collaboration with a mobile phone retailer in India. The study explores the performance effects of a values-based 360-degree performance assessment system, introduced in tandem with a formalized vision and core values in half of the retail chain's stores, as a means to improve alignment in an organization already motivating its employees via incentives tied to financial performance. The system was designed to introduce developmental and evaluative mechanisms that would motivate employees to balance short-term results with long-term organizational objectives. However, such a system would not work if, for instance, employees ignored it because it was not linked to high-powered explicit incentives or if the organizational context was not conducive to supporting them in the pursuit of the long-term goals.

We examine the effects of the introduction of the system, before any feedback was provided, on outcomes that were immediately actionable and largely controllable by employees in their day-to-day work. The intervention yielded interesting results. While do not find any significant performance effects on average, we identify organizational factors that moderate the effectiveness

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[40] Our results are robust to the entire set of alternative specifications described in footnote 32.

of the system by enhancing the evaluative and/or developmental mechanisms underlying the 360-degree system. Specifically, we find that the system was more effective in stores where teams had greater opportunities for advancement and where store managers had greater ability to understand and act on the core values. Conversely, we find a demotivating factor, not being paid on time, led to a deterioration of performance after the intervention, consistent with employees perceiving an imbalance between management's request for greater effort and their level of support of the store team.

Our findings contribute to the literature on 360-degree performance appraisal systems by highlighting organizational factors that influence their effectiveness. We contribute to the study of developmental and evaluative mechanisms used to motivate performance via implicit incentives. Finally, we contribute to the accounting literature examining the use of multiple measures in performance evaluations.

Our results are generalizable to companies considering a 360-degree system in a setting with preexisting high-powered incentives (though being focused on a single organization, our study is subject to the usual concerns regarding generalizability). We acknowledge that our relatively small sample and potentially imperfect proxies for our core values could have hampered our ability to detect significant results in addition to those we document. However, our proxies allowed us to use more objective measures than the ratings traditionally used to test the effects of performance assessments interventions and to capture both potential causal effects and moderated effects of the values-based 360-degree system.

Future research may address follow-up questions, such as exploring how much communication and reinforcement of core values is necessary for a company's values to resonate with—and be

remembered by—employees and what are the best ways to do so. We look forward to future research in this area.

## Appendix 1: Performance Appraisal Instrument

| Core Value #1: We Gain Control of Our Own Career By Working Hard Every Day and Reaching Out for Support |
|---|
| We work hard every day to grow and succeed in life, and to make RETAILER successful. We know that by working hard and honestly, we can earn more and we have the chance to be promoted. |
| We reach out to other stores, head office, brands, managers, and the distribution center (DC), to get stock, to get numbers activated, and to get repair and dead on arrival (DOA) cases resolved. By reaching out we achieve higher sales, make more money and have happier customers who will recommend our stores. |
| *Select a number between 1 and 5 for every question where 1 means Never, 2 means Rarely, 3 means Sometimes, 4 means Very often, and 5 means Always.* |
| 1.1    Do you explain to all promoters and the cashier their targets and the reward program? |
| 1.2    Do you give all promoters and the cashier their daily target every morning? |
| 1.3    Do you ask all promoters and the cashier every day about their target achievement till date? |
| 1.4    Do you remain positive about targets even if there have been some bad days? |
| 1.5    Do you try to increase sales by reaching out to customers outside the store (for example, by distributing leaflets, making posters of special offers, or telling promoters to stand at the canopy outside the store)? |
| 1.6    Do you work hard to help everyone achieve targets even if popular models are out of stock? |
| 1.7    Do you tell all promoters and the cashier to sell old and stuck models? |
| 1.8    Do you sell to the customer when the brand's promoter is not present? |
| 1.9    Do you make sure any problems in the store (PC, printer, AC, lights, sign board problems, etc.) get fixed? |
| 1.10   Do you stay late if a customer walks into the store at the time of store closing? |
| 1.11   Do you make efforts to get a new promoter if a current promoter resigns or is absent for a long time? |
| 1.12   Do you help get stock from other stores when needed? |
| 1.13   Do you make all the promoters and the cashier believe that they can have a successful career at RETAILER? |
| 1.13b. Do you believe that you can have a successful career at RETAILER? |

## Appendix 1: Performance Appraisal Instrument (Continuation)

| |
|---|
| **Core Value #2: We Give More Value** |
| We give the best combo offers to our customers. For example, our handset plus headphone offer and our handset plus insurance offer are the best value in the market. |
| We constantly try to learn about the products and services we sell so that we can know what options to offer to our customers and answer their questions better.  We help customers with their problems in any way we can. We work to build long-term relationships with our customers so that they will visit RETAILER again. |
| *Select a number between 1 and 5 for every question where 1 means Never, 2 means Rarely, 3 means Sometimes, 4 means Very often, and 5 means Always* |
| 2.1    Do you know all the DPs, schemes and offers from the different brands (example, Bajaj Finance, EMI scheme, Cash back, PayTM Scheme, etc.)? |
| 2.2    Do you make sure that the price list, posters, and banners in the store are up-to-date? |
| 2.3    Do you know the local market prices? |
| 2.4    Do you teach less experienced team members how to sell profitable bundles to the customer (for example, by giving free gifts, free apps, insurance, unlimited calling, etc. to close sales at a higher price)? |
| 2.5    Do you try hard to close sales against competitors without lowering the price? |
| 2.6    Do you contact the store's customers when the out of stock products become available in the store? |
| 2.7    Do you contact previous customers to tell them about new products? |
| 2.8    Do you make long-term relationships with customers? |
| 2.9    Do you ask all promoters and the cashier to make long-term relationships with customers? |
| 2.10   Do you make accurate commitments to the customer? (For example, you do not promise that a number will be activated in 3 days, or promise that a handset will be repaired within a certain amount of time if you do not know when it will be repaired) |
| In this question, |
| NEVER means you make promises you do not know RETAILER can fulfill, such as those in the examples, to all of your customers |
| SOMETIMES means you make promises you do not know RETAILER can fulfill, such as those in the examples, to about half of your customers |
| ALWAYS means you never make promises you do not know RETAILER can fulfill, such as those in the examples, to any of your customers |
| 2.11   Do you instruct all promoters and the cashier to make only accurate commitments to the customer? |
| 2.12   Do you help customers that have problems?  (Some examples of helping are giving your mobile number to the customer, solving activation problems, showing the customer the way to the service center, or even personally going to the service center with the customer, or sending some person from the store to the service center with the customer) |
| In this question, |
| NEVER means you never take any action to help the store's customers that have problems |
| SOMETIMES means you take one or more actions, such as those described in the examples, to help about half of the store's customers that have problems |
| ALWAYS means you take one or more actions, such as those described in the examples, to help all of the store's customers that have problems |
| 2.13   Do you tell everyone in the store to help customers with problems? |
| 2.14   Do you tell everyone in the store to give the same respect to all customers regardless of their purchase amount? (For example, to be equally respectful to a customer wanting a small Rs. 10 recharge and a customer buying an apple phone) |
| 2.15   Do you tell everyone in the store to be respectful to irritated customers? |

**Appendix 1: Performance Appraisal Instrument (Continuation)**

| |
|---|
| **Core Value #3: We are Honest and Ethical** |
| We are always honest and ethical and we do the right thing at the store every day. We believe that this is the only way to make our store and RETAILER successful. |
| *Select a number between 1 and 5 for every question where 1 means Never, 2 means Rarely, 3 means Sometimes, 4 means Very often, and 5 means Always.* |
| 3.1    Are you trustworthy to customers? (Examples of NOT being trustworthy are telling lies about what is being sold to the customer, selling fake products, changing the original batteries of the handset for cheaper batteries, taking the customers' money based on false promises)<br><br>In this question,<br><br>NEVER means you take at least one action that is "not trustworthy," such as those described in the examples, with all of the customers you serve<br><br>SOMETIMES means you take at least one action that is "not trustworthy", such as those described in the examples, with about half of the customers you serve<br><br>ALWAYS means you never take an action that is "not trustworthy" with any of the customers you serve |
| 3.2    Do you tell all promoters and the cashier to be trustworthy to customers? |
| 3.3    Do you stop wrong activity against the company? (Examples of wrong activities are: stealing, lying, giving unauthorized discounts to friends or family, selling products that are not coming from HO at the store, people making profits for themselves when serving a customer, borrowing store cash or allowing someone to borrow store cash)<br><br>In this question,<br><br>NEVER means you never stop wrong activities<br><br>SOMETIMES means you stop about half of the wrong activities that you notice, such as those described in the examples<br><br>ALWAYS means you stop all of the wrong activities that you notice, such as those described in the examples |
| 3.4    Do you report wrong activity against the company to HO?<br>    Please select "Cannot Answer" if there hasn't been any wrong activity. |
| 3.5    Are you honest at the store? (Being honest means not doing any wrong activity)<br><br>In this question,<br><br>NEVER means you do at least one wrong activity, such as those described in the examples, one or more times a day<br><br>SOMETIMES means you do at least one wrong activity, such as those described in the examples, about once a week<br><br>ALWAYS means you never do any wrong activity |
| 3.6    Do you tell the cashier and the promoters to be always honest in the store? |
| 3.7    Do you transfer promoters out of your store for personal issues? |

## Appendix 1: Performance Appraisal Instrument (Continuation)

| |
|---|
| **Core Value #4: We are Caring and Respectful** |
| We care about and respect each other and our customers.  We help each other to grow and be more successful. This is who we are. |
| *Select a number between 1 and 5 for every question where 1 means Never, 2 means Rarely, 3 means Sometimes, 4 means Very often, and 5 means Always.* |
| 4.1     Do you give the same respect to customers regardless of caste, religion, gender, or economic status? |
| 4.2     Do you give the same respect to the promoters and the cashier regardless of caste, religion or gender? |
| 4.3     Do you earn the trust of the promoters and the cashier? |
| 4.4     Do you tell all promoters and the cashier when they've done a good job (using words such as Well Done, Good job, Keep it up)? |
| 4.5     Do you tell people at the store to work as a team? |
| 4.6     Do you help solve any fights among the promoters or between the cashier and the promoters at the store? |
| 4.7     Do you understand the personal problems of the cashier and the promoters? |
| 4.8     Do you ask for help from HO when a promoter or the cashier needs it? |
| 4.9     Do you care about the promoters' and the cashier's personal development? |
| 4.10   Do you make efforts to learn about new products and services? |
| 4.11   Do you make efforts to learn from the most experienced promoters? |
| 4.12   Do you make efforts to learn from the WhatsApp group? |
| 4.13   Do you try to learn new things? |

**Appendix 2: Organizational Goals and Values at RETAILER**

| | |
|---|---|
| **Vision:** To build <u>together</u> the largest and most successful mobile phone retailer in India, providing our people with maximum opportunities for growth | |

| Core values | Performance metrics used by researchers as proxies of the core values |
|---|---|
| We Gain Control of Our Own Career By Working Hard Every Day and Reaching Out for Support | *Ln(Sales)* |
| We Give More Value | *NPS, Politeness, Helpfulness, % Invoices with Bundles* |
| We are Honest and Ethical | *Failed Audit* |
| We are Caring and Respectful | N/A |

## Appendix 3: Definition of Variables Used in This Study

| Variable | Definition |
|---|---|
| **Dependent Variables** | |
| *Ln(Sales)* | Natural logarithm of weekly net sales for store $i$ in week $t$ |
| *NPS* | Net promoter score for store $i$ in week $t$ |
| | This variable is constructed based on a question asking customers how likely they are (on a 0 to 10 scale) to recommend RETAILER to a friend. From this question, we calculate the Net Promoter Score as the percentage of "promoters" (respondents giving a 9 or 10 rating) minus the percentage of "detractors" (respondents giving a score of 0 through 6). |
| *Politeness* | Average score awarded by surveyed customers to store $i$ in week $t$ with respect to the question "Were the people who served you polite?" Individual customers were asked to respond using a scale from 1 to 5, where 1 corresponds to "Not at all" and 5 corresponds to "Very much so." |
| *Helpfulness* | Average score awarded by surveyed customers to store $i$ in week $t$ with respect to the question "Did the people who served you go out of their way to help you?" Individual customers were asked to respond using a scale from 1 to 5, where 1 corresponds to "Not at all" and 5 corresponds to "Very much so." |
| *% Invoices with Bundles* | Percentage of invoices with bundles of products or services for store $i$ in week $t$ |
| *Failed Audit* | Indicator variable equal to 1 if store $i$ does not pass a random audit examining missing inventory or cash in week $t$, and zero otherwise. |
| **Explanatory Variables** | |
| *Post* | Indicator variable assuming the value of 1 if the week/month is after the introduction of the 360-degree survey instrument, and zero otherwise. |
| *Treatment* | Indicator variable assuming the value of 1 if store $i$ is in the treatment group, and zero otherwise. |
| *Store Manager Change* | Indicator variable assuming the value of 1 if the store manager at store $i$ in week $t$ is different than the store manager that was at the store at the time of the intervention.[41] |
| *Sales Days* | Number of days where store $i$ had at least one sales transaction in week $t$. |

*(Appendix 3 continues in the next page)*

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[41] Note that the variable is specified at the store/week level. For example, if the store manager changes for just one week and then the resident store manager comes back the week after, then the indicator variable is equal to 1 for the week in which a different store manager was in the store and goes back to 0 when the resident store manager comes back.

| Moderator Variables | |
|---|---|
| *Promotion Opportunities* | Variable calculated as (# stores) / (# employees competing for a potential promotion). The number of employees competing for a promotion is calculated as the median number of employees working in store *i* plus the median number of employees working at stores within a mile-radius from store *i,* calculated over the pre-period. For the purpose of this definition, employees include the store manager, the cashier, and the promoters. |
| *Tenure* | Tenure of the store manager, expressed in years, calculated at the end of the last week preceding the post period. |
| *Average DSI (Pre-Period)* | Average value of monthly days of sales in inventory in the pre-period for each store. |
| *Late Payment* | Indicator variable equal to 1 if the store manager at store *i* was paid at least one time after at least half of the stores located in a one-mile radius from store *i* in the pre-period, and zero otherwise. |

**Appendix 4: Follow-up interview questionnaire**

| Question Number | Question |
|---|---|
| *Q1* | When did you start working at RETAILER? |
| *Q2.a* | Is there anything you like about working at RETAILER? If so, what? |
| *Q2.b* | Would you recommend a friend or family member to work at RETAILER? |
| *Q3* | Is there anything you don't like about working at RETAILER? If so, what? |
| *Q4* | What are your career plans for the future? |
| *Q5* | Can you tell me what RETAILER's core values are? |
| *Q6* | Do you know what each of these core values mean? |
| *Q7.a* | What did you like about the session introducing RETAILER's vision? |
| *Q7.b* | Do you have any concerns about the session? |
| *Q8* | What do you think is the purpose of the new 360-degree feedback system? |
| *Q9* | What is your understanding about who will complete the surveys? |
| *Q10* | What is your understanding about who will receive feedback? |
| *Q11* | How did you feel about completing a survey about your store manager/yourself for the new 360-degree feedback system? |
| *Q12* | What impact, if any, do you think the new 360-degree feedback system will have? |
| *Q13* | Has the store manager/Have you discussed the new 360-degree feedback system with your store team? |
| *Q14* | (Question for store managers only): How did you feel about others completing a survey about you for the new 360-degree feedback system? |
| *Q15* | (Question for store managers only): How do you feel about the upcoming feedback sessions where you will see the results of the surveys and discuss the results with your supervisor? |

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**Table 1: Descriptive Statistics**

| Variable | N | Mean | S.D. | P25 | P50 | P75 | Min | Max |
|---|---|---|---|---|---|---|---|---|
| *Ln(Sales)* | 694 | 12.784 | 1.249 | 12.065 | 12.847 | 13.700 | 6.745 | 15.423 |
| *NPS* | 368 | 0.333 | 0.391 | 0.000 | 0.333 | 0.556 | -1.000 | 1.000 |
| *Politeness* | 376 | 3.828 | 0.557 | 3.500 | 3.800 | 4.000 | 1.000 | 5.000 |
| *Helpfulness* | 376 | 3.418 | 0.598 | 3.000 | 3.222 | 3.500 | 1.000 | 5.000 |
| *% Invoices with Bundles* | 694 | 0.259 | 0.103 | 0.188 | 0.253 | 0.319 | 0.000 | 0.714 |
| *Failed Audit* | 77 | 0.675 | 0.471 | 0.000 | 1.000 | 1.000 | 0.000 | 1.000 |
| *Store Manager Change* | 694 | 0.089 | 0.285 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 |
| *Promotion Opportunities* | 671 | 0.194 | 0.118 | 0.119 | 0.158 | 0.242 | 0.085 | 0.500 |
| *Store Manager Tenure* | 599 | 2.667 | 2.625 | 0.595 | 2.003 | 3.658 | 0.058 | 8.682 |
| *Average DSI (Pre-Period)* | 694 | 25.839 | 9.305 | 17.725 | 23.631 | 32.766 | 14.957 | 50.062 |
| *Late Payment* | 694 | 0.063 | 0.244 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 |
| *Sales Days* | 694 | 6.912 | 0.429 | 7.000 | 7.000 | 7.000 | 1.000 | 7.000 |

*Notes*: In order to have a consistent length in the pre- and post- periods we have restricted the sample to include 11 weeks in the pre-period and 11 weeks in the post-period. Our sample includes store-week level observations for all variables. Variables *Promotion Opportunities*, *Store Manager Tenure*, *Average DSI*, and *Late Payment* are defined at the store level and are time invariant. Observations for the net promoter score (*NPS*) were not available for the entire pre-period, as these metrics were introduced only three weeks before the intervention. The low N for the variable Failed Audit arises from the fact that random audits are performed every week, but not all stores are audited every week. All variables are defined in Appendix 3.

**Table 2: Correlation Table**

|  |  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) | *Ln(Sales)* | 1.000 | | | | | | | | | | |
| (2) | *NPS* | -0.273* | 1.000 | | | | | | | | | |
| (3) | *Politeness* | -0.362** | 0.459*** | 1.000 | | | | | | | | |
| (4) | *Helpfulness* | -0.388** | 0.456*** | 0.916*** | 1.000 | | | | | | | |
| (5) | *% Invoices with Bundles* | 0.302* | 0.039 | -0.194 | -0.178 | 1.000 | | | | | | |
| (6) | *Failed Audit* | 0.100 | 0.051 | 0.276* | 0.267 | -0.109 | 1.000 | | | | | |
| (7) | *Store Manager Change* | -0.124 | 0.023 | -0.178 | -0.103 | -0.057 | -0.167 | 1.000 | | | | |
| (8) | *Promotion Opportunities* | -0.292* | 0.067 | 0.021 | -0.009 | 0.080 | -0.358** | 0.307* | 1.000 | | | |
| (9) | *Store Manager Tenure* | -0.111 | -0.017 | -0.023 | 0.029 | 0.217 | -0.042 | 0.075 | 0.114 | 1.000 | | |
| (10) | *Average DSI (Pre-Period)* | -0.384** | -0.173 | -0.131 | -0.068 | -0.213 | -0.221 | 0.320* | 0.252 | -0.142 | 1.000 | |
| (11) | *Late Payment* | -0.141 | -0.007 | 0.029 | 0.070 | 0.127 | 0.082 | -0.127 | -0.201 | -0.118 | 0.020 | 1.000 |
| (12) | *Sales Days* | 0.183 | 0.296* | -0.053 | -0.080 | 0.206 | -0.156 | 0.071 | -0.094 | -0.226 | 0.030 | 0.048 |

*Notes*: Table 2 reports the pairwise Pearson correlation coefficients across all variables of interest in this study. Two-tailed statistical significance is indicated, respectively, with: * = ($p<0.10$); ** = ($p<0.05$); *** = ($p<0.01$). All variables are defined in Appendix 3.

**Table 3: Effects of the Introduction of the Values-Based 360° Assessment System on Performance**

This table reports results from running the following regression:

$$Performance_{i,t} = \alpha + \beta_1 Post_t + \beta_2 Post_t * Treatment_i + \beta_3 Store\ Manager\ Change_{i,t} + \beta_4 Sales\ Days_{i,t} + \beta_n(Store\ Fixed\ Effects) + \varepsilon$$

| Core Values | We Gain Control of our Career by Working Hard | We Give More Value | | | | We are Honest and Ethical |
|---|---|---|---|---|---|---|
| Outcomes | Ln(Sales) | NPS | Politeness | Helping | % Invoices with Bundles | Failed Audit |
| Post | -0.021 | 0.251** | -0.625*** | -1.051*** | -0.023 | -0.217 |
| | (-0.04) | (2.64) | (-4.77) | (-7.24) | (-0.88) | (-1.46) |
| Post*Treatment | 0.333 | -0.021 | -0.085 | 0.072 | 0.034 | -0.261 |
| | (0.66) | (-0.18) | (-0.51) | (0.40) | (0.92) | (-1.39) |
| Store Manager Change | -0.193 | 0.017 | -0.125 | -0.116** | -0.015 | -0.412** |
| | (-0.70) | (0.24) | (-1.61) | (-2.18) | (-0.55) | (-2.11) |
| Sales Days | 0.279 | -0.058 | -0.154 | -0.040 | 0.004 | -0.074 |
| | (0.97) | (-0.53) | (-1.60) | (-0.55) | (0.47) | (-0.67) |
| Intercept | 10.799*** | 0.545 | 5.435*** | 4.506*** | 0.235*** | 1.431* |
| | (5.57) | (0.74) | (8.59) | (9.26) | (3.86) | (1.91) |
| Store FE? | YES | YES | YES | YES | YES | YES |
| N | 694 | 368 | 376 | 376 | 694 | 72 |
| adj. $R^2$ | 0.033 | 0.058 | 0.315 | 0.537 | 0.014 | 0.385 |
| adj. $R^2$ (alt. est.) | 0.566 | 0.064 | 0.327 | 0.521 | 0.433 | 0.342 |

*Notes*: We use a difference-in-differences specification and estimate regression coefficients using OLS with standard errors clustered by store. In all cases, t-statistics are reported in parentheses underneath the corresponding estimated coefficient. Two-tailed statistical significance is indicated, respectively, with: * = ($p<0.10$); ** = ($p<0.05$); *** = ($p<0.01$). Our estimations are performed using the Stata procedure *xtreg*, with fixed effects and standard errors clustered at the store level. While this procedure yields appropriate standard errors, the $R^2$ is generally underestimated. In the last row we report the $R^2$ relative to the estimation of the same model using the Stata procedure *areg*, which fits a linear regression absorbing the categorical factor *Store*, which yields a more realistic $R^2$ in settings where the number of clusters is large. We estimate the regression in which *Failed Audit* is the dependent variable using a linear probability model. Because the assignment of a store to the treatment versus control group is time-invariant, the inclusion of store fixed effects causes the coefficient relative to the variable *Treatment* not to be estimated, hence we are not reporting a row for this variable. All variables are defined in Appendix 3.

**Table 4: Moderation Effect of Promotion Opportunities on the Performance Effects of the Introduction of the Values-Based 360° Assessment System**

This table reports results from running the following regression:

$$Performance_{i,t} = \alpha + \beta_1 Post_t + \beta_2 Post_t * Treatment_i + \beta_3 Post_t * Promotion\ Opportunities_i +$$
$$\beta_4 Post_t * Treatment_i * Promotion\ Opportunities_i + \beta_5 Store\ Manager\ Change_{i,t} +$$
$$\beta_6 Sales\ Days_{i,t} + \beta_n(Store\ Fixed\ Effects) + \varepsilon$$

| Core Values | *We Gain Control of our Career by Working Hard* | *We Give More Value* | | | | *We are Honest and Ethical* |
|---|---|---|---|---|---|---|
| Outcomes | *Ln(Sales)* | *NPS* | *Politeness* | *Helping* | *% Invoices with Bundles* | *Failed Audit* |
| *Post* | -0.090 | 0.190** | -0.690*** | -1.105*** | -0.013 | -0.239 |
| | (-0.18) | (2.28) | (-5.43) | (-7.57) | (-0.66) | (-1.62) |
| *Post*Treatment* | 0.417 | 0.068 | -0.018 | 0.125 | 0.034 | -0.252 |
| | (0.82) | (0.63) | (-0.10) | (0.67) | (1.06) | (-1.46) |
| *Post*Promotion Opportunities* | -5.752* | -0.734 | -0.386 | -0.079 | -0.459*** | -0.607 |
| | (-1.86) | (-1.34) | (-0.93) | (-0.15) | (-3.20) | (-0.86) |
| *Post*Treatment* Promotion Opportunities* | 6.833* | 1.656** | 0.720 | 0.282 | 0.854*** | -1.141 |
| | (1.90) | (2.29) | (0.57) | (0.22) | (3.12) | (-1.15) |
| *Store Manager Change* | -0.186 | 0.021 | -0.115 | -0.105* | -0.022 | -0.341 |
| | (-0.64) | (0.30) | (-1.49) | (-2.00) | (-0.79) | (-1.62) |
| *Sales Days* | 0.173 | -0.088 | -0.130 | -0.020 | -0.001 | -0.113 |
| | (0.69) | (-0.80) | (-1.43) | (-0.29) | (-0.24) | (-0.93) |
| *Intercept* | 11.598*** | 0.777 | 5.290*** | 4.382*** | 0.267*** | 1.701* |
| | (6.74) | (1.04) | (8.84) | (9.72) | (6.12) | (2.03) |
| *Store FE?* | YES | YES | YES | YES | YES | YES |
| *N* | 671 | 356 | 364 | 364 | 671 | 72 |
| *adj. R²* | 0.118 | 0.053 | 0.327 | 0.548 | 0.126 | 0.405 |
| *adj. R² (alt. est.)* | 0.585 | 0.054 | 0.340 | 0.532 | 0.516 | 0.352 |

*Notes*: We use a difference-in-differences specification and estimate regression coefficients using OLS with standard errors clustered by store. In all cases, t-statistics are reported in parentheses underneath the corresponding estimated coefficient. Two-tailed statistical significance is indicated, respectively, with: * = (p<0.10); ** = (p<0.05); *** = (p<0.01). Our estimations are performed using the Stata procedure *xtreg*, with fixed effects and standard errors clustered at the store level. While this procedure yields appropriate standard errors, the $R^2$ is generally underestimated. In the last row we report the $R^2$ relative to the estimation of the same model using the Stata procedure *areg*, which fits a linear regression absorbing the categorical factor *Store*, which yields a more realistic $R^2$ in settings where the number of clusters is large. The variable *Promotion Opportunities* is calculated as (# stores) / (# employees at the store plus employees at the stores in a one-mile radius), where the number of employees is captured at the median level in the pre-period. For ease of interpretation, we have mean-centered the variable *Promotion Opportunities*. Because the assignment of a store to the treatment versus control group is time-invariant, the inclusion of store fixed effects causes the coefficient relative to the variable *Treatment* and *Promotion Opportunities* not to be estimated, hence we are not reporting a row for these variables and their interaction. All variables not defined here, are defined in Appendix 3.

**Table 5: Moderation Effect of Store Manager Tenure on the Performance Effects of the Introduction of the Values-Based 360° Assessment System**

This table reports results from running the following regression:

$$Performance_{i,t} = \alpha + \beta_1 Post_t + \beta_2 Post_t * Treatment_i + \beta_3 Post_t * Tenure_i +$$
$$\beta_4 Post_t * Treatment_i * Tenure_i + \beta_5 Store\ Manager\ Change_{i,t} +$$
$$\beta_6 Sales\ Days_{i,t} + \beta_n (Store\ Fixed\ Effects) + \varepsilon$$

| Core Values | We Gain Control of our Career by Working Hard | We Give More Value | | | | We are Honest and Ethical |
|---|---|---|---|---|---|---|
| Outcomes | Ln(Sales) | NPS | Politeness | Helping | % Invoices with Bundles | Failed Audit |
| Post | 0.307 | 0.445*** | -0.597*** | -1.119*** | -0.005 | -0.280 |
| | (0.52) | (4.07) | (-5.65) | (-10.09) | (-0.14) | (-1.41) |
| Post*Treatment | -0.023 | -0.219 | -0.279* | -0.073 | 0.014 | -0.229 |
| | (-0.04) | (-1.33) | (-1.92) | (-0.44) | (0.26) | (-0.81) |
| Post*Tenure | -0.091 | -0.082*** | -0.045 | -0.020 | 0.005 | 0.041 |
| | (-0.97) | (-3.65) | (-1.35) | (-1.01) | (0.84) | (0.33) |
| Post*Treatment* Tenure | 0.099 | 0.098*** | 0.105** | 0.092** | -0.003 | -0.039 |
| | (0.91) | (3.02) | (2.56) | (2.28) | (-0.31) | (-0.30) |
| Store Manager Change | -0.155 | -0.023 | -0.170** | -0.176** | -0.027 | -0.430* |
| | (-0.50) | (-0.26) | (-2.55) | (-2.40) | (-0.84) | (-1.94) |
| Sales Days | 0.127 | -0.141 | -0.125 | -0.018 | 0.000 | -0.047 |
| | (0.42) | (-1.33) | (-1.38) | (-0.26) | (0.02) | (-0.44) |
| Intercept | 11.947*** | 1.092 | 5.270*** | 4.390*** | 0.251*** | 1.244 |
| | (5.81) | (1.53) | (8.74) | (9.52) | (3.94) | (1.68) |
| Store FE? | YES | YES | YES | YES | YES | YES |
| N | 599 | 321 | 329 | 329 | 599 | 64 |
| adj. $R^2$ | 0.031 | 0.091 | 0.379 | 0.615 | 0.006 | 0.401 |
| adj. $R^2$ (alt. est.) | 0.612 | 0.092 | 0.406 | 0.602 | 0.508 | 0.354 |

*Notes*: We use a difference-in-differences specification and estimate regression coefficients using OLS with standard errors clustered by store. Two-tailed statistical significance is indicated, respectively, with: * = ($p<0.10$); ** = ($p<0.05$); *** = ($p<0.01$). Our estimations are performed using the Stata procedure *xtreg*, with fixed effects and standard errors clustered at the store level. While this procedure yields appropriate standard errors, the $R^2$ is generally underestimated. In the last row we report the $R^2$ relative to the estimation of the same model using the Stata procedure *areg*, which fits a linear regression absorbing the categorical factor *Store*, which yields a more realistic $R^2$ in settings where the number of clusters is large. The variable *Tenure* measures the total number of years of employment recorded for the store manager computed at the time of the intervention. Because the assignment of a store to the treatment versus control group is time-invariant, the inclusion of store fixed effects causes the coefficient relative to the variables *Treatment* and *Tenure* not to be estimated, hence we are not reporting a row for these variables and their interaction. All variables not defined here, are defined in Appendix 3.

**Table 6: Supplemental Analyses: Moderation Effect of Days Sales in Inventory (DSI) on the Performance Effects of the Introduction of the Values-Based 360° Assessment System**

This table reports results from running the following regression:

$$Performance_{i,t} = \alpha + \beta_1 Post_t + \beta_2 Post_t * Treatment_i + \beta_3 Post_t * Highest\ DSI_i +$$
$$\beta_4 Post_t * Treatment_i * Highest\ DSI_i + \beta_5 Store\ Manager\ Change_{i,t} +$$
$$\beta_6 Sales\ Days_{i,t} + \beta_n(Store\ Fixed\ Effects) + \varepsilon$$

| Core Values | We Gain Control of our Career by Working Hard | We Give More Value | | | | We are Honest and Ethical |
|---|---|---|---|---|---|---|
| Outcomes | Ln(Sales) | NPS | Politeness | Helping | % Invoices with Bundles | Failed Audit |
| Post | -0.498 | 0.252** | -0.529*** | -0.970*** | -0.028 | -0.303* |
|  | (-0.92) | (2.44) | (-4.22) | (-6.18) | (-0.83) | (-1.98) |
| Post*Treatment | 0.758 | -0.027 | -0.143 | 0.044 | 0.020 | -0.200 |
|  | (1.33) | (-0.21) | (-0.82) | (0.22) | (0.49) | (-0.95) |
| Post* Highest DSI | 1.367 | -0.004 | -0.337 | -0.290 | 0.012 | 0.325 |
|  | (1.53) | (-0.02) | (-1.09) | (-0.96) | (0.26) | (0.83) |
| Post*Treatment* Highest DSI | -0.863 | 0.046 | -0.006 | -0.186 | 0.136 | -0.045 |
|  | (-0.84) | (0.16) | (-0.02) | (-0.56) | (1.42) | (-0.10) |
| Store Manager Change | -0.267 | 0.018 | -0.120 | -0.112* | -0.014 | -0.480** |
|  | (-0.88) | (0.24) | (-1.48) | (-2.02) | (-0.48) | (-2.26) |
| Sales Days | 0.262 | -0.059 | -0.136 | -0.020 | 0.003 | -0.011 |
|  | (0.97) | (-0.55) | (-1.46) | (-0.28) | (0.32) | (-0.09) |
| Intercept | 10.916*** | 0.556 | 5.318*** | 4.371*** | 0.243*** | 0.999 |
|  | (5.92) | (0.76) | (8.61) | (9.33) | (3.89) | (1.14) |
| Store FE? | YES | YES | YES | YES | YES | YES |
| N | 694 | 368 | 376 | 376 | 694 | 72 |
| adj. $R^2$ | 0.114 | 0.053 | 0.322 | 0.545 | 0.064 | 0.393 |
| adj. $R^2$ (alt. est.) | 0.602 | 0.058 | 0.334 | 0.529 | 0.462 | 0.338 |

*Notes:* We use a difference-in-differences specification and estimate regression coefficients using OLS with standard errors clustered by store. In all cases, t-statistics are reported in parentheses underneath the corresponding estimated coefficient. Two-tailed statistical significance is indicated, respectively, with: * = ($p<0.10$); ** = ($p<0.05$); *** = ($p<0.01$). Our estimations are performed using the Stata procedure *xtreg*, with fixed effects and standard errors clustered at the store level. While this procedure yields appropriate standard errors, the R2 is generally underestimated. In the last row we report the $R^2$ relative to the estimation of the same model using the Stata procedure *areg*, which fits a linear regression absorbing the categorical factor Store, which yields a more realistic $R^2$ in settings where the number of clusters is large. The variable *Highest DSI* is an indicator assuming value 1 if the individual store fell in the highest quartile of days sales in inventory in the pre-period, and 0 otherwise. Because the assignment of a store to the treatment versus control group is time-invariant, the inclusion of store fixed effects causes the coefficients relative to the variables *Treatment* and *Highest DSI* not to be estimated, hence we are not reporting a row for these variables and their interaction. All variables not defined here, are defined in Appendix 3.

**Table 7: Supplemental Analyses: Moderation Effect of Late Payments on the Performance Effects of the Introduction of the Values-Based 360° Assessment System**

This table reports results from running the following regression:

$$Performance_{i,t} = \alpha + \beta_1 Post_t + \beta_2 Post_t * Treatment_i + \beta_3 Post_t * Late\ Payment_i +$$
$$\beta_4 Post_t * Treatment_i * Late\ Payment_i + \beta_5 Store\ Manager\ Change_{i,t} +$$
$$\beta_6 Sales\ Days_{i,t} + \beta_n (Store\ Fixed\ Effects) + \varepsilon$$

| Core Values | We Gain Control of our Career by Working Hard | We Give More Value | | | | We are Honest and Ethical |
|---|---|---|---|---|---|---|
| Outcomes | Ln(Sales) | NPS | Politeness | Helping | % Invoices with Bundles | Failed Audit |
| Post | -0.182 | 0.256** | -0.617*** | -1.039*** | -0.036 | -0.185 |
| | (-0.36) | (2.48) | (-4.35) | (-6.62) | (-1.35) | (-1.13) |
| Post*Treatment | 0.376 | 0.004 | -0.039 | 0.105 | 0.031 | -0.253 |
| | (0.73) | (0.03) | (-0.23) | (0.57) | (0.87) | (-1.25) |
| Post* | 2.116*** | -0.065 | -0.088 | -0.154 | 0.154*** | -0.315* |
| Late Payment | (4.14) | (-0.63) | (-0.62) | (-0.98) | (5.82) | (-1.92) |
| Post*Treatment* | -0.467 | -0.477*** | -0.841*** | -0.633*** | 0.068* | -0.247 |
| Late Payment | (-0.90) | (-3.83) | (-4.73) | (-3.29) | (1.89) | (-1.22) |
| Store Manager | -0.092 | 0.011 | -0.135* | -0.126** | -0.006 | -0.440** |
| Change | (-0.33) | (0.15) | (-1.74) | (-2.32) | (-0.20) | (-2.19) |
| Sales Days | 0.270 | -0.053 | -0.148 | -0.037 | 0.003 | -0.081 |
| | (0.95) | (-0.49) | (-1.55) | (-0.49) | (0.38) | (-0.72) |
| Intercept | 10.864*** | 0.507 | 5.384*** | 4.470*** | 0.241*** | 1.482* |
| | (5.67) | (0.70) | (8.59) | (9.26) | (4.04) | (1.93) |
| Store FE? | YES | YES | YES | YES | YES | YES |
| N | 694 | 368 | 376 | 376 | 694 | 72 |
| adj. $R^2$ | 0.110 | 0.063 | 0.326 | 0.544 | 0.104 | 0.388 |
| adj. $R^2$ (alt. est.) | 0.600 | 0.069 | 0.338 | 0.528 | 0.485 | 0.333 |

*Notes*: We use a difference-in-differences specification and estimate regression coefficients using OLS with standard errors clustered by store. In all cases, t-statistics are reported in parentheses underneath the corresponding estimated coefficient. Two-tailed statistical significance is indicated, respectively, with: * = ($p<0.10$); ** = ($p<0.05$); *** = ($p<0.01$). Our estimations are performed using the Stata procedure *xtreg*, with fixed effects and standard errors clustered at the store level. While this procedure yields appropriate standard errors, the $R^2$ is generally underestimated. In the last row we report the $R^2$ relative to the estimation of the same model using the Stata procedure *areg*, which fits a linear regression absorbing the categorical factor *Store*, which yields a more realistic $R^2$ in settings where the number of clusters is large. The variable *Late Payment* is an indicator variable equal to 1 if the store manager of the store was paid after the half of the close stores (i.e., stores in a one-mile radius) at least one time in the pre-period, and zero otherwise. Because the assignment of a store to the treatment versus control group is time-invariant, the inclusion of store fixed effects causes the coefficient relative to the variables *Treatment* and *Late Payment* not to be estimated, hence we are not reporting a row for these variables and their interaction. All variables not defined here, are defined in Appendix 3.