

Communication Within Firms: Evidence from CEO Turnovers

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Abstract. This paper uses novel, firm-level communication measures derived from communications metadata several months before and after a CEO transition for 102 firms to study whether and how this organizational event is reflected in employees' communication flows. We find that CEO turnover is associated with an initial decrease in intrafirm communication (−20% relative to the pre-CEO transition period), followed by a significant increase approximately five months after the CEO turnover (+20% relative to the pre-CEO transition period). The increase in communication is driven primarily by interdepartmental (i.e., communication involving employees of different functional departments) and vertical (i.e., communication among managers and employees) communication flows. This study suggests that communications metadata are a useful tool to examine how organizational change and related uncertainty impact information flows within firms.

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1. Introduction

CEO turnover is a significant organizational event¹ that typically marks a discontinuous change in firms' strategies (Friedman and Saul 1991, Tushman and Rosenkopf 1996, Karaevli 2007, Finkelstein et al. 2009, Karaevli and Zajac 2013), creating uncertainty within the organization (Srivastava 2015, Barrero et al. 2017). The increase in uncertainty is rooted in various factors. First, CEO turnover events are often an impetus for top management team (TMT) change (Keck and Tushman 1993; Hambrick 1995, 2007; Hambrick and Cannella 2004; Coyne and Coyne 2007), with almost 70% of CEOs reshuffling their TMTs within the first two years (Birshan et al. 2016). Additionally, the first business decisions of newly appointed CEOs are often to divest from prior CEOs' strategies while working with their new leadership team to update the strategic vision for the firm (Coles et al. 2014; Pan et al. 2015, 2016). New CEOs are unproven in their ability to perform in their role (Dikolli et al. 2014) and may not be able to fully control entrenched managers (Finkelstein 1992, Denis et al. 2012), which exacerbates the uncertainty associated with personnel and investment changes.²

In this paper, we leverage novel metadata on meetings and emails across a sample of 102 firms to explore whether and how CEO turnover events—and the increase in uncertainty associated with them—are reflected

in the behavior of the organization itself and, more specifically, in how employees communicate and interact. Although we are not the first to leverage this type of data in management research (as we discuss in more detail below), to our knowledge, we are the first to leverage communication metadata across a large set of firms to explore the effects of a common organizational event.

Very little is known about this specific aspect of CEO turnover even though, as explored by extensive theoretical literature,³ communication is considered essential to developing and executing firms' strategies, enabling firms to share knowledge, create organizational memory, and make decisions (Simon 1947, Arrow 1974) and is influenced by organizational changes and leadership choices (Schein 1994, Rotemberg and Saloner 2000, Van den Steen 2005, Kotter 2012).

From a theoretical standpoint, the effect of CEO turnover on internal communication is a priori ambiguous. On the one hand, the arrival of a new CEO, and the corresponding changes in strategy, personnel, and investments, may be matched by an increase in internal communication to establish new communication flows within the organization (Ma and Seidl 2018), resolve the uncertainty inherent with the new appointments, and equip every level of the organization with the information needed to act on the new direction set by the new CEO. For example, Birshan et al. (2016) advise

CEOs to provide clarity in the first few months on what they will and will not do, and stresses that employees should hear about changes to the firm's strategic direction from the source, that is, the CEO and leadership team, and not from others in the organization. A strong and early emphasis on communication characterized, for example, the transition from Steve Ballmer to Satya Nadella (formerly the head of Microsoft's Cloud and Enterprise division) at Microsoft in 2014.⁴ When Nadella took office, Microsoft was struggling, and according to some, this was partly due to the intense culture of internal competition prevalent during Ballmer's tenure (Ibarra and Rattan 2018). After accepting the top job, Nadella implemented a major strategic shift (formally announced at the 2015 annual company meeting), prioritizing cloud services as the source of future growth. This change was matched by large and visible investments in internal communication, which included securing a new communications director and developing an initiative called *One Microsoft*, focused on tearing down walls across functional divisions.⁵

At the same time, however, one may also expect CEO changes to reduce internal communication, at least in the short run. This is because CEOs typically require—or may be explicitly advised to take (Alvarez-Miranda and Watkins 2021)—some time to diagnose the situation and formulate and communicate a new strategy for the firm. While this process unfolds, internal communication may suffer for two distinct reasons. First, while waiting for new strategic priorities, employees may focus their time on routine tasks, which could be undertaken without much communication with others. Second, the lack of information on employees' future roles, responsibilities, and objectives (Srivastava 2015) may foster confusion and misalignment between management and employees and, in some cases, may even breed competition for resources within the firm. The lull in communication after a CEO change is indeed mentioned as a source of anxiety for employees in the business press (Coyne and Coyne 2007). A case in point is Ron Johnson's short tenure (2011–2013) at JCPenney, which was characterized by a reduction in communication so severe that the firm was described as a place where “communication goes to die.”⁶ Communications from top executives were few and far between, often provided verbally without being codified as an email or memo. This communication “murkiness” was said to have planted “the seeds of distrust” in the firm, breeding a “rumor factory” which further exacerbated the misalignment within the organization.⁷ To the extent that alignment facilitates communication (Alonso et al. 2008, Garicano and Rayo 2016), a change in CEO may thus reduce communication.

To provide new evidence on the effects of CEO change on internal communication flows, we use detailed and

comparable email and meeting (i.e., calendar invite) metadata from 6 months before to 12 months after CEO turnover across a sample of 102 firms. We find that CEO turnover is associated with an initial *decrease* in intrafirm communication, followed by a significant *increase* approximately four months after the transition. This is consistent with the time period for which Srivastava (2015) suggests uncertainty is greatest: the first 18 weeks after an organizational change. The magnitude of these swings is substantial—ranging between a –15% short-run decrease and a +20% medium-run increase in emails and meetings relative to the pretransition period. Additionally, these dynamics reflect primarily changes in the behavior of employees who stay at the firm throughout the CEO transition rather than compositional changes in the workforce.

Additional analysis on different aspects provides evidence on the factors shaping the evolution of internal communication over time. First, the data suggest that the medium-run recovery in internal communication is primarily driven by centrally orchestrated communication flows rather than local or impromptu interactions between employees. We reach this conclusion by looking in detail at the evolution of different types of interactions over time, and specifically at the difference between *interdepartmental* communication—meetings involving employees from more than a single functional department—and *intradepartmental* communication—meetings involving only employees of the same department, and between *vertical* communication—that is, meetings involving both managers and individual contributors (ICs)—and *horizontal* communication—meetings involving employees who are peers (i.e., manager-to-manager or IC-to-IC interactions). In both cases, we find that meetings that we believe to be more likely to be centrally orchestrated (i.e., intradepartmental and vertical meetings) show a significantly stronger recovery in the medium run after the short-run decline.

Second, the evidence suggests that the evolution of internal communication is affected by the uncertainty surrounding the CEO change. We infer that uncertainty plays a role in shaping communication by looking at the differences in communication dynamics across different types of organizational transitions. In particular, firms with higher levels of board member and TMT turnover following a CEO change (which we take as a proxy for greater uncertainty in the CEO transition) experience a slower recovery in meetings in the medium run. In contrast, the appointment of an internal CEO (which we take as a proxy for lower uncertainty in the CEO transition) relates to a faster recovery in communication in the medium run.

Lacking a reliable source of exogenous variation in CEO turnover within our sample (e.g., CEO sudden deaths or hospitalizations (Johnson et al. 1985, Bennesen et al. 2020)), we cannot precisely identify whether

the associations we uncover are driven solely by CEO transitions or by other time-varying unobserved organizational events coinciding with the CEO's departure. With this caveat in mind, the final part of the paper suggests that the results are consistent with a parsimonious model of strategic intrafirm communication, where a reduction in alignment around the firm's strategy—due to either a delay in strategy formulation or initial confusion about the future—determines an initial reduction in internal communication flows. However, as the new CEO on-boards, sets expectations, redefines priorities, and shares a new strategy with the firm, the initial uncertainty is gradually resolved, alignment within the firm is restored, and coordination costs return to the prior steady state. CEOs who are better leaders can restore alignment—and, hence, internal communication flows—more quickly (Schein 1994, Kotter 2012).

Our primary contribution is using novel metadata to examine internal communication flows across many firms before and after a common organizational event, a CEO transition. Prior studies (Kleinbaum 2012, Kleinbaum et al. 2013, Kleinbaum and Stuart 2014, Srivastava 2015, Impink et al. 2020, Zhang et al. 2020) have pioneered the idea that email and meeting metadata contain valuable insight into within-firm information flows and that changes to information flows have important decision-making implications. Communications metadata for a single entity have been used in prior research to analyze employee coordination (Kleinbaum et al. 2013, Yang et al. 2022), the implementation of corporate strategies (Kleinbaum and Stuart 2014), employee-level productivity (Aral et al. 2012, Espinosa and Stanton 2022), and organizational change (Srivastava 2015). Moreover, field studies and surveys focused on a single firm have been used to understand how communication modes (Battiston et al. 2021), knowledge transition (Sandvik et al. 2020, Espinosa and Stanton 2022), and changes to human resource practices (Gant et al. 2002) impact productivity. These studies, however, do not examine these effects across multiple organizations. Other studies have used communications metadata at scale across many firms to examine team collaboration patterns (Polzer et al. 2018, Polzer and DeFilippis 2020), the pandemic (Larson et al. 2021, DeFilippis et al. 2022), and informal networks (Jacobs and Watts 2021), but not in association with a change in organizational structure.

Second, we contribute to the literature dedicated to understanding the impact of CEO turnover on firms (Friedman and Saul 1991, Tushman and Rosenkopf 1996, Pan et al. 2016, Ma and Seidl 2018), extending the analysis to internal communication flows, an example of intangible aspects of firms' behavior that are typically hard to observe (Syverson 2011; Bloom et al. 2012, 2016; Gibbons and Henderson 2012; Bandiera et al. 2015).

Third, this paper relates to a rich literature in organizational economics that focuses on the importance of

intrafirm communication as a proxy for information flows and knowledge sharing needed to support effective coordination (Hart and Holmstrom 2002, Dessein and Santos 2006, Cremer et al. 2007, Alonso et al. 2008, Rantakari 2008, Calvó-Armengol et al. 2015, Dessein et al. 2016, Van den Steen 2017). This literature has identified the existence of tradeoffs between the benefits of increased coordination and employees acting independently. Still, it has hardly been able to verify the adherence of these predictions in the real world. Our contribution is leveraging newer methods, which rely on digital communications metadata, to address existing theoretical questions about interfirm information flow. As an example of this, we discuss an established model of intrafirm communication and decision making (Alonso et al. 2008, Rantakari 2008) as a means to interpret the empirical analysis of communication flows after a significant organizational event.

The paper is organized as follows. Section 2 describes the communications metadata used in these analyses. Section 3 details our research design to compare communication before and after the CEO transition event. Section 4 describes the main results, heterogeneous treatment effects, and robustness analyses, and Section 5 describes our interpretation of these results. Section 6 concludes by suggesting the importance of communication metadata to organizational research and offering guidance to scholars on issues associated with using communications data for many firms.

2. Data

We obtained metadata on meeting and communication flows from a large email provider. The provider built firm-level aggregates based on meeting and email metadata following our specifications for a set of firms for which email and meeting metadata had been captured and retained (approximately three years of data) and that had experienced a CEO change on the condition that the firms used in the sample could not be identified (by other external researchers or us). Below we describe how we construct the sample of firms experiencing a CEO turnover event (Section 2.1), the communication variables proxying for internal communication flows (Section 2.2), and the different subsets we generate to explore in more detail the nature of communication flows across firms (Section 2.3).

2.1. CEO Turnovers

We identified all firms experiencing a CEO transition from 2016 to 2018 (7,027 firms). Of this broader set of firms, we selected firms with available data in Orbis and an active web domain (5,075 firms). Our email provider suggested that we restrict our sample to a period when the largest set of firms had comprehensive

Table 1. Firm-Level Demographics Summary (102 Firms)

CEO turnover reasons	Firms	%	Country	Firms	%
Within-firm transfer	31	30%	United States	40	39%
Fired/underperformed	20	20%	European Union	27	26%
Other	20	20%	United Kingdom	16	16%
Retirement	17	17%	Canada	7	7%
Poached/new venture	8	8%	Rest of world	12	12%
M&A	5	5%			
Death	1	1%			
CEO turnover characteristics	Firms	%	Industry	Firms	%
Internal replacement	50	49%	Services/Fin. (SIC 70–89)	18	18%
New CEO failure (<1 yr)	9	9%	Finance (SIC 60–67)	12	12%
			Manufacturing (SIC 20–39)	19	19%
			Trade (SIC 50–59)	9	9%
			Other industries	44	43%
Firm turnover rates	Med	SD	Executive turnover	Firms	%
Employee turnover rate	0.010	0.13	CFO	10	10%
Manager turnover rate	0.012	0.13	COO	16	16%
TMT turnover rate	0.100	0.56	Board chairperson	9	9%
Board turnover rate	0.080	0.46			

Notes. Percentages rounded to the nearest unit. We collected reason, industry, and country from all firms in the broader sample from Execucomp, BoardEx, and Orbis. Data on executive, TMT, and board turnover come from BoardEx. Employee and manager turnover rates are from our email provider, calculated based on the date the mailbox account was created and deleted. The data we collected were sent to the email provider to be paired with their communications metadata. Internal replacement is an indicator variable for CEOs hired internally (already working at the firm). New CEO failure is an indicator variable if the CEO exits the new role within the first year. We use paired BoardEx data to calculate board member or TMT turnover (67 firms) during the month of the CEO change and the following three months as a percentage of listed executives or board members. Lastly, we have an indicator variable for CFO, COO, or Board Chairperson turnover. Med., median; Fin., finance; SIC, standard industrial classifier.

metadata for several consecutive months—September, October, November, and December. During these four months, 338 firms of the 5,075 firms in the broader sample experienced a CEO change. We collected and paired additional firm-level data from multiple databases, including information on the number of employees, industry, central headquarters (CHQ) location from Dun & Bradstreet, and inferred CEO names from Execucomp, BoardEx, and Orbis data sets.⁸ At the industry level, we collected and paired quarterly revenue data from CapIQ. From press releases, we manually coded why the CEO transition occurred (e.g., being fired for performance issues, retirement, death, an internal transition to another role, merger, being hired by another firm, or leaving to start an entrepreneurial venture).

Once we completed the additional data collection, we sent this data set to the email provider to anonymously match our data set with firms in its database. This matching process led to a sample of 102 firms with communication data before and after a CEO turnover event. The sample includes firms located in 21 higher-income countries, and most firms have their headquarters in the United States (39%), continental Europe (26%), or the United Kingdom (16%). The CEOs left for various reasons, including being fired

for performance reasons (20%), retirement (17%), transfer to another firm (8%), exit after merger and acquisition (M&A) activity (5%), and death (1%). Many CEOs (30%) remained at the firm in a different role, including board positions or other roles (e.g., technical advisor, consultant). We were unable to determine the exact cause of the transition from publicly available data for 20 firms in the sample (Other, 20%). Most of the firms in the sample are classified as being in the services (18%), manufacturing (19%), finance/insurance (12%), or trade (9%) industries. The average firm has 6,545 (SD 4,217) users, defined as employees with an active email account connected to the firm’s web domain, and the largest firm has almost 15,000 users. We provide more details on the firms in our sample in Table 1. In total, our communications metadata contain approximately 500 million (500M) emails and 80M meetings.

We examine differences between our matched sample and the overall sampling frame with publicly available data. Table A.1 in the Online Appendix, columns (1) and (2), shows our matched sample is more likely to be classified in Agriculture and to be larger than firms included in the sample sent to the email provider. However, there is no significant difference in return on assets (ROA). Our findings from these analyses align

with feedback from our email provider that their client base is skewed toward larger enterprises.

2.2. Communication Data

After identifying the usable sample, we asked the email provider to build month-level, firm-specific aggregated communication measures using email and meeting metadata, before and after the CEO transition. Our primary analysis is based on variables measuring meetings and email data at the firm-bimonthly level. The information underlying our measures comes from about 15 petabytes of raw communication metadata that, because of our legal agreements with the email provider, cannot be stored or analyzed outside the bounds of their firm. We report summary statistics data in Table 2.

2.2.1. Meetings. We obtained data on the average number of meetings per employee, the average meeting duration, and the average number of attendees per meeting for 17 calendar months. Employees attended, on average, 36 (median 31, SD 22) internal meetings per month. These meetings lasted about 123 minutes (median 89, SD 213) and included 39 attendees (median 23, SD 47). Employees were scheduled to attend around 80 hours of meetings in a typical month. To avoid the inclusion of all-hands meetings and training events, the data provider excluded meetings that lasted longer than eight hours, including all-day meetings and multi-day meetings. Meetings set up by people external to the firm are not included. Meetings set up by an internal employee may include vendors, temporary workers, and other participants external to the firm. The data also exclude meetings that were declined by an

employee in their calendar metadata. Meetings with no attendees other than the meeting scheduler (i.e., blocking off time on your calendar) are not included.

2.2.2. Email. We received the aggregated average number of internal emails, the number of recipients, and the percentage of emails that included only employees in the same department for 22 calendar months. We further broke down these aggregates into the average number of different department emails and the mix of different- and same-department emails within each firm. On average, employees sent around 240 (median 223, SD 105) internal emails per month to 3 recipients per email (median 3, SD 2). There are substantially fewer meetings per employee than emails per employee, consistent with the idea that meetings require higher effort to organize. We report the distribution (kernel density) of email and meeting counts in Online Appendix Figure C.1. We report summary statistics in Table 2.

2.3. Subsets

2.3.1. Employee Subsets. We were also able to obtain information on emails and meetings for employees by hierarchical level (Senior Managers, Managers, and Individual Contributors), based on each firm's organogram and for employees who enter (Entrants) or exit (Exiters) after the turnover event or remain at the firm throughout (Stayers). The data are aggregated at the firm identifier (ID)-Hierarchy-Status-Location-Period level.

Meetings vary along the hierarchy: Senior Managers, who manage other managers, attend more meetings per month (*Senior Managers*: median 53, SD 31) than both types of other employees (*Managers*: median 36, SD 24; *ICs*: median 16, SD 12). This finding is consistent with the notion that managerial roles are inherently more interactive than IC roles (Bandiera et al. 2020). Managers attend shorter meetings (*Senior Managers*: median 81 minutes, SD 60; *Managers*: median 83 minutes, SD 103) than ICs (median 97 minutes, SD 578). Variation by hierarchical level is similar for emails, too; Senior Managers send more emails per month (median 307, SD 144) than other Managers (median 241, SD 115) and ICs (median 140, SD 111).

We use *t*-tests to check whether the differences between the means across these subgroups differ from zero. For these groups, the only measure for which the means are not significantly different is the average number of attendees present in meetings: ICs attend meetings with 36 attendees/meeting (median 23, SD 41), Managers attend meetings with 44 attendees/meeting (median 27, SD 54), and Senior Managers attend meetings with 46 attendees/meeting (median 27, SD 55).

Although we have a user count measure for both emails and meetings at the cell level each month, in the analysis we aggregate the monthly data into bimonthly periods to smooth out possible measurement error.

Table 2. Firm-Level Summary of Communications Metadata (102 Firms)

	Total				
	Mean	Median	SD	Min	Max
Meetings					
Count (avg./month)	36	31	22	1	135
Interdepartment (diff. dept.)	29	25	20	0	125
Intradepartment (same dept.)	6	5	6	0	38
Duration (minutes/meeting)	123	89	213	15	4,775
Attendees (avg. invited/meeting)	39	23	47	2	504
Emails					
Count (avg./month)	240	223	105	1	826
Recipients (avg. employees/email)	3	3	2	1	29

Notes. Means are user-weighted based on the average monthly email and meeting users provided by the email provider at the firm-month level for the 102 firms in the main effect analysis. Inter- and intradepartment meeting data are for 89 firms. Meeting count, duration, and attendees are based on calendar invites that include at least one other individual. avg., average; diff., different; dept., department.

Period 0 (P0) relates to the month of the CEO transition (i.e., month 0) and the month after the CEO transition (i.e., month 1), and period -1 relates to the month before the CEO transition (i.e., month -1) and the month before that month (i.e., month -2). We also weigh the aggregated data based on the number of users at the cell level divided by the number of users at the firm level in each period.

2.3.2. Meeting Type Subsets. Our email provider gave us data on *interdepartment* communication intensity, meetings involving employees from across different functional departments within the firm (median 25, SD 20), and *intradepartment* communication intensity, meetings involving employees within the same functional division (median 5, SD 6), for 89 firms with available data at the aggregated user level for 19 months at the cell level (i.e., ID-Hierarchy-Tenure-HQ-Period).

They provided an additional data set with hierarchical information capturing nondirectional communication intensity across similar managerial hierarchy levels, which we define as *horizontal* communication (i.e., manager-manager or IC-IC), and across different hierarchy levels, which we define as *vertical* communication (i.e., manager-IC or IC-manager), for 88 firms with available data at the firm level for 14 calendar months. These summary statistics are reported in Table 3.

2.4. Data Limitations

There are numerous limitations in using metadata aggregates. First, because of confidentiality concerns, we could not obtain the text or subject lines of the emails or meeting requests. More granular data (e.g., to map the internal graph of the firm, names of specific departments, and subsets of senior leaders) could not be provided because of confidentiality concerns. This implies that we do not have proper network measures.

Instead, we use firm-level aggregates with some network connotations (inter- versus intradepartmental, horizontal versus vertical, etc.).

Second, communication metadata do not capture all interactions occurring within a firm. For instance, more informal communication, including communication through mobile phone text messaging or consumer-focused messaging services on mobile phones or web-based communication software platforms managed by firms other than our email provider, would not be captured by our measures. Our data capture only employee communication on our email provider's platform. An increase in hallway and water cooler conversations around the time of the CEO change—which may happen during CEO turnovers—would not be recorded in our data. Additionally, during a transition, employees may choose to use their personal email addresses or other modes of communication that are not monitored by the firm, potentially biasing the recorded email data downward after the transition. Furthermore, employees who deal with highly sensitive information may opt for an ad hoc phone call or in-person meeting that is not recorded in their calendar to avoid sharing the information in a legally discoverable manner. To the extent that a CEO turnover affects these margins of adjustment in communication, we will be unable to capture them in our analysis.

For meetings, it is unclear if meetings represent what employees actually do or simply what they write in their digital calendars. For instance, employees could use their calendars inconsistently or may not attend meetings that they accept in their calendars. We do not know if employees actually attend and participate in the meeting; we only know they have not “declined” the meeting. Moreover, the opposite could be true, and employees could attend a meeting for which they declined or never received an invitation. Communication metadata could vary drastically across people according to their response habits. Our data would also

Table 3. Communication by Management Hierarchy Summary (Firm Level, 102 Firms)

	Individual contributors			Managers			Senior managers			<i>t</i> -test (<i>p</i> -value)	
	Mean	Median	SD	Mean	Median	SD	Mean	Median	SD	IC/Ot. Man	Ot. Man/Sr. Man
Meetings											
Count (avg./month)	19	16	12	41	36	24	58	53	31	0.00	0.00
Duration (minutes/meeting)	170	97	578	102	83	103	91	81	60	0.00	0.02
Attendees (avg. invited/meeting)	36	23	41	44	27	54	46	27	55	0.00	0.57
Emails											
Count (avg./month)	165	140	106	265	241	114	330	307	146	0.00	0.00
Recipients (avg. employees/email)	3	3	5	3	3	2	3	3	1	0.00	0.00

Notes. Management hierarchy is based on the firm's self-reported employee reporting structure: ICs have no direct reports, Other Managers only manage ICs, and Senior Managers manage at least one manager. Groups not included in the firm's formal reporting hierarchy, tagged as “no hierarchy” by the email provider, are dropped. The sample is the 102 firms of the main effect analysis. Two-sided *t*-test with equal variance: the null hypothesis is that the means are equal. avg., average; Ot., other; Man, manager; Sr., senior.

not capture changes in these habits (upward or downward) after a CEO change.

For emails, we do not know if an individual exerted more or less effort writing an email or quickly sending a message. Our data are limited in that we do not have access to the content or subject lines of emails and meeting requests, which could provide us with more insight into the interaction and the exertion of effort. For example, a one-on-one meeting with your manager is different from a team-building event or monthly all-hands. Similarly, an email to update management monthly is quite different from an email to coordinate firm strategy. More broadly, although gaining external validity by having uniformly derived communication measures across multiple firms, we miss the depth of information provided by studying a single firm.

Finally, because of privacy concerns and in adherence with General Data Protection Regulation (GDPR), source files are deleted on a rolling basis. As such, we were unable to recover some of the additional measures designed to look at subsets of the communication data for all firms in the sample. Moreover, we were unable to access data for 14 firms that had been deleted from our email provider's system after our initial data collection, when we requested additional data on types of interactions between employees.

3. Empirical Design

We exploit the CEO transition's timing to analyze the change in email and meeting measures before and after the CEO transition within the same firm using the following specification:

$$\ln(y_{i,t}) = \beta_0 + \sum_{t=-2}^{-3} \beta_t^{\text{pre}} D_t + \sum_{t=0}^6 \beta_t^{\text{post}} D_t + \gamma_i + \varepsilon_{i,t}, \quad (1)$$

where $y_{i,t}$ denotes the communication variable, such as the count of meetings or emails, for firm i in bimonthly period t , and γ_i are firm-level fixed effects, such that the coefficients on the time variables represent the percentage changes in communication patterns within the same firm over time.

All data are aggregated at the firm level and bimonthly level to smooth out monthly variation. The CEO transition occurs in month 0 and, combined with the first month after the transition, is denoted "period 0" in the tables and figures. The base period for these regressions is the bimonthly period before the CEO transition (i.e., months -1 and -2 , denoted as "period 1" in the tables and figures). We cluster standard errors at the firm level. We define periods 0 and 1 (i.e., months 0–3 after the CEO transition) as the *short-run* transition period, periods 2–3 (i.e., months 4–7 after the CEO transition) as the *medium-run* transition period, and periods 4–6 (i.e., months 8–12 after the CEO transition) as the *new steady state*.

There are several threats to the identification of the causal effects of CEO change on communication flows. First, the change in CEO may be caused by changes in communication (i.e., deterioration in communication may lead to a CEO change), rather than the reverse; we are able to look at pretrends in communication 6 months before the CEO change, and we also examine whether the results vary for transitions prompted by CEO underperformance. Second, because we lack a control group, we are exposed to the possibility that observed changes over time may be common across *all* firms, not just those experiencing a CEO change (Borusyak et al. 2021, Sun and Abraham 2021). Specifically, because the CEO transitions in our sample occur within a four-month window (i.e., September, October, November, and December), analyses may reflect seasonality effects from reduced communication during winter holidays. To address this concern, we seasonally adjust the data using information from the email provider,⁹ as well as explore whether the results vary across different types of CEO transitions and different types of communication (because we would not expect pure seasonal effects to vary along these dimensions). Third, because CEO turnovers are likely endogenous to other unobservable changes experienced by firms,¹⁰ the estimated coefficients may still reflect time-varying, unobserved factors that coincide with a CEO replacement (e.g., changes in organizational structure and strategy happening at the time of the CEO turnover). Therefore, the results of our analysis could capture broader strategic or organizational changes correlated with a CEO transition.

4. Results

4.1. Main Results

We show the main results in Table 4 and graph the bimonthly coefficients in Figure 1. Email and meeting measures do not display evidence of a pretrend in months before the base period, period -1 (two months before the CEO transition month), which attenuates the concern of reverse causality in the short run (i.e., communication patterns leading to a CEO transition). Meeting and email counts experience a sharp drop (Table 4, column (1), meetings, P0: -31% , SD 0.10; column (4), emails, P0: -14% , SD 0.07) immediately after the CEO transition, occurring in period 0 (i.e., months 0 and 1 after the transition), and recover slightly but remain depressed in period 1 (i.e., months 2 and 3 after the transition). Meeting and email counts increase significantly from the base period, period -1 , through period 2 (i.e., 4 and 5 months after the transition) and stabilize through periods 3–5 (i.e., between 6 and 11 months after the transition). In the last period of our data, period 6 (i.e., 12 and 13 months after the transition), both email and meeting counts fall and are not

Table 4. Firm-Level Event Regressions of Meeting and Email Measures

Dependent variable is log of:	(1)	(2) Meetings		(3)	(4)	(5) Emails	
	Meetings (count)	Avg. duration (minutes)		Avg. participants (people)	Emails (count)		Avg. recipients (people)
Period −3	0.048 (0.071)	0.221*** (0.077)		0.189* (0.099)	0.034 (0.033)		−0.058** (0.027)
Period −2	−0.035 (0.071)	0.026 (0.041)		0.035 (0.118)	−0.109** (0.050)		−0.047** (0.020)
Period −1 (base)							
Period 0	−0.310*** (0.104)	0.127* (0.068)		0.126 (0.085)	−0.143** (0.069)		−0.019 (0.032)
Period 1	−0.263*** (0.089)	0.117 (0.077)		0.071 (0.090)	−0.109** (0.055)		−0.016 (0.031)
Period 2	0.241*** (0.075)	0.052 (0.057)		0.326*** (0.089)	0.067 (0.052)		0.002 (0.031)
Period 3	0.232*** (0.076)	0.176** (0.078)		0.532*** (0.097)	0.109** (0.048)		0.025 (0.033)
Period 4	0.145* (0.075)	0.290*** (0.087)		0.555*** (0.104)	0.093* (0.049)		0.033 (0.035)
Period 5	0.277*** (0.077)	0.270*** (0.079)		0.399*** (0.109)	0.106** (0.052)		0.029 (0.039)
Period 6	−0.018 (0.092)	0.159** (0.073)		−0.035 (0.119)	0.040 (0.083)		0.030 (0.045)
Observations	725	725		725	725		725
Adj. R ²	0.666	0.439		0.677	0.659		0.878
Firms	102	102		102	102		102

Notes. All columns are estimated by OLS. Standard errors are clustered at the firm level, in parentheses under the coefficient. Firm-level fixed effects are included in all columns. The transition occurs during the first month of bimonthly period 0. Period −1, the bimonthly period before the CEO transition, is the base period for the regressions. Adj., adjusted; Avg., average.

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

significantly different from the base period. There is also some evidence that meetings become longer in the period of the CEO change (+0.13, SD 0.07).

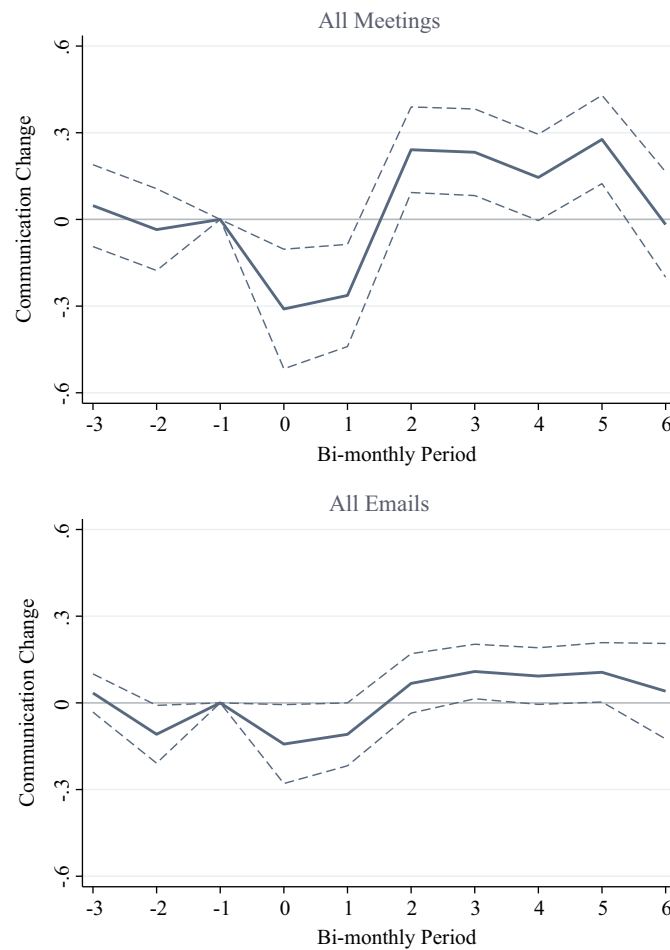
Meetings also become longer after the CEO transition, driven by significant positive changes in period 3 through period 5 (Table 4, column (2): ~+25%). Moreover, meetings become larger, including more participants in period 2 through period 5 (column (3): ~+40%). Similar to meeting counts, these changes dampen by period 6, showing reversion to pretransition levels. There is a continuing significant, positive effect in period 6 (P6: +0.16, SD 0.07), but this is a downward trend from the medium-run peak (P4: +0.29, SD 0.09). For the number of meeting attendees, the coefficient of the effect is not significant in period 6. We do not find that the CEO transition relates to significant changes in the number of recipients included in email exchanges at any point examined (column (5)).

Three points are worth noticing. First, these changes in communication flows are not driven by compositional changes in the workforce—for example, the exit of managers or new workers in the months after the CEO turnover event—but, rather, by behavioral changes in incumbent employees (Online Appendix B.1). Second, communication flow changes are consistent across all levels of management—for example,

managers' communication patterns are affected in the same ways as ICs' communication patterns (Online Appendix B.2). Third, meetings appear to be more responsive after the CEO turnover event, declining twice as fast in the short run and recovering more quickly in the medium run than emails. Although prior literature shows that meetings involving in-person or virtual face-to-face conversation are more costly to employees, requiring more time than sending an email (Battiston et al. 2021), these results suggest that meetings are also more likely to respond to an organizational change such as a CEO transition. This may be due to the added costs of setting up a meeting when the organization is in flux (for example, employees may change roles or exit the organization) or of preparing for and managing a face-to-face meeting in an uncertain context.

4.2. Robustness Checks

We performed several robustness checks to investigate whether the results were driven by the aggregation choice, the unbalanced nature of the sample, or seasonality. The results are not driven by the aggregation of months into bimonthly periods: using monthly data delivers very similar, though slightly noisier (Online Appendix B.3), results. The results are also not affected by the unbalanced nature of the sample. Our email provider

Figure 1. (Color online) Main Summary

Note. We plot the ordinary least squares (OLS) regression coefficients from the main event regression specification on the top two graphs, reported in Table 4, across time for the total meeting count (top) and email count (bottom) for the full sample of 102 firms.

on-ramped some firms to this data service during this period, so the distribution of missing data is skewed toward earlier periods (24 firms' data were provided for period -3, 55 firms in the transition period, 91 firms for period 1, and 102 firms in period 2 and later). When we rerun the main specification for the balanced sample of firms with data before and after the transition, we obtain similar coefficients, though less precisely estimated because of the smaller sample (Online Appendix B.4). Third, the results are not significantly affected by seasonality (Online Appendix B.5). Our break-even analyses show that the month-on-month decline in December must be greater than -50% for meetings (model (4)) and greater than -25% for emails (model (8)) to fully account for the drop in communication that we observe in the data. We do not find evidence for heterogeneity of the main effects by basic firm characteristics (country of headquarters, industry, and firm size). Fourth, results are robust to including proxies for quarterly industry-level performance over time (Online Appendix B.6).

4.3. Central Coordination vs. Local Interactions

An interesting question to explore is whether changes in communication flows are affected by the new CEO, or by the central organization more broadly. Drawing from a prior example, Nadella is credited with reducing barriers between divisions by communicating his *One Microsoft* vision to increase coordination across product groups. This increased coordination is necessary for the organization to reorient itself around an updated strategy, enabling the disparate divisions to focus on achieving a new firm-level goal.

To explore this idea, we build different data aggregates to distinguish centrally driven interactions from local interactions based on the type of participants involved in a meeting. Unfortunately, the data do not allow us to look at the origin of communication flows in detail—that is, we cannot distinguish whether a meeting request originated from specific individuals or functions within a firm. However, we can build proxies for centrally orchestrated communication flows

as follows. First, we distinguish between *vertical* communication (meetings involving both managers and employees) and *horizontal* communication (meetings involving only peers of the same management or IC hierarchical level), again under the assumption that manager-IC interactions are more likely to reflect central coordination efforts relative to interactions among peers.¹¹ Second, we distinguish between meetings involving participants from different departments (*interdepartmental*) and those from the same department (*intradepartmental*). The idea, in this case, is that interdepartmental meetings are more likely to reflect central coordination needs relative to intradepartmental meetings.

The results of these exercises are shown in Table 5 and Figures 2 and 3. In sum, although the initial drop in communication is similar across all different types of participants, the rebound in communication in the medium run is larger for vertical and for interdepartmental meetings.

Vertical meetings increase with greater intensity relative to horizontal meetings, such that the ratio of vertical to horizontal meetings over time (i.e., vertical meeting count divided by horizontal meeting counts) significantly increases in the medium run (Table 5, column (8), P2: +12%, SD 0.02; P3: +19%, SD 0.02). Interdepartmental meetings increase more than intradepartmental ones in period 2 (Table 5, column (4), P2: +13%, SD 0.08; P3: +17%, SD 0.08).

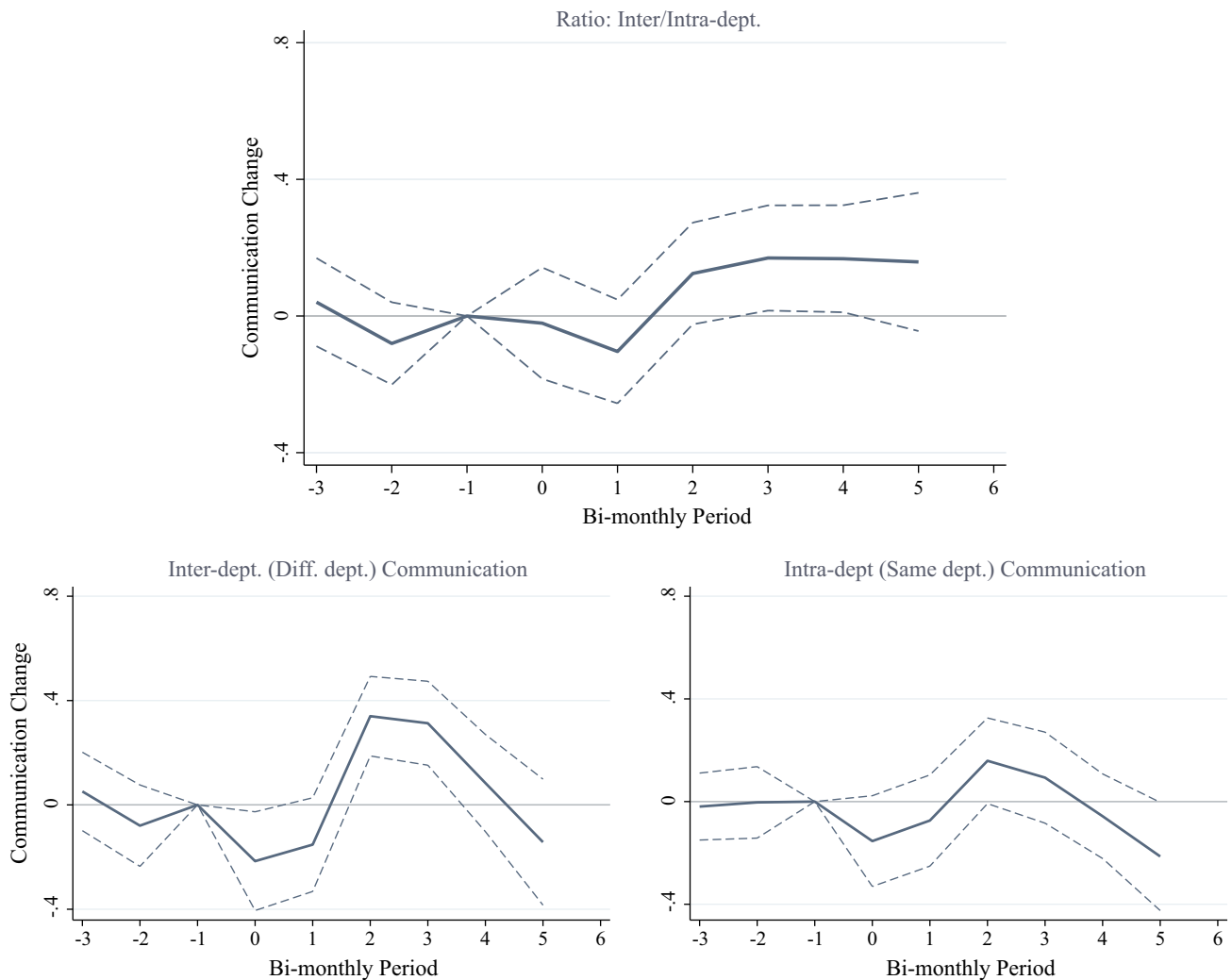
Third, we look separately at meetings involving central headquarters (CHQ) employees and those in other locations (*Subsidiaries*), under the assumption that central communication efforts would be more affected by the new CEO at the CHQ level because of physical proximity (Giroud 2013, Gumpert et al. 2022). Figure 4 examines changes in communication within the CHQ and within subsidiaries separately, showing that the rebound in communication is larger at CHQ relative to subsidiaries in the medium run.

Table 5. Firm-Level Event Study Regressions by Communication Modes (Meetings)

Dependent variable is log of:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Inter- and intradepartment				Horizontal and vertical			
	Meeting counts (log)			Ratio: Inter-/Intradept.	Meeting counts (log)			Ratio: Vertical/horizontal
	Total Inter and Intra	Interdept.	Intradept.		Total Hor. and Vert.	Vertical	Horizontal	
Period -3	0.036 (0.073)	0.052 (0.076)	-0.019 (0.066)	0.041 (0.065)	-0.003 (0.145)	-0.052 (0.192)	0.027 (0.135)	-0.030* (0.015)
Period -2	-0.070 (0.074)	-0.080 (0.079)	-0.003 (0.070)	-0.080 (0.061)	-0.162 (0.175)	-0.236 (0.240)	-0.131 (0.160)	-0.031* (0.018)
Period -1 (base)								
Period 0	-0.197** (0.092)	-0.216** (0.095)	-0.154* (0.089)	-0.021 (0.082)	-0.169 (0.182)	-0.221 (0.250)	-0.153 (0.165)	-0.016 (0.021)
Period 1	-0.145* (0.085)	-0.152* (0.090)	-0.074 (0.089)	-0.104 (0.076)	-0.042 (0.175)	-0.073 (0.246)	-0.036 (0.158)	-0.005 (0.023)
Period 2	0.305*** (0.074)	0.340*** (0.077)	0.159* (0.084)	0.124* (0.075)	0.830*** (0.162)	1.190*** (0.229)	0.716*** (0.147)	0.115*** (0.020)
Period 3	0.267*** (0.079)	0.313*** (0.081)	0.093 (0.089)	0.170** (0.077)	1.169*** (0.178)	1.749*** (0.258)	0.988*** (0.160)	0.181*** (0.023)
Period 4	0.055 (0.086)	0.084 (0.094)	-0.057 (0.083)	0.168** (0.079)				
Period 5	-0.145 (0.118)	-0.143 (0.122)	-0.214** (0.106)	0.158 (0.102)				
Observations	469	469	469	469	352	352	352	352
Adj. R ²	0.681	0.674	0.842	0.705	0.880	0.830	0.895	0.742
Firms	89	89	89	89	88	88	88	88

Notes. All columns are estimated by OLS. Standard errors are clustered at the firm level, in parentheses, under the coefficient. This analysis uses different subsets of communication data. Column (1) reruns the main analysis on the subset of firms with department-level data. Column (2) uses interdepartmental communication (across different departments), and column (3) uses intradepartmental communication (within the same department), in each firm. Column (4) is the ratio of interdepartmental to intradepartmental communication. The data used in columns (5)–(8) were limited to seven periods (period -3 to period 3) based on data available at the time our email provider shared this additional data set. Column (5) uses the aggregate of only vertical and horizontal (352 firm-periods, 88 firms). Please see Online Appendix A.3 for a discussion of which types of interactions are and are not included and how the underlying sample differs. Vertical (column (6)) is the IC-Manager meeting interactions. Horizontal (column (7)) is the aggregate of IC-IC and Manager-Manager meeting interactions. The ratio of vertical to horizontal meeting interactions (column (8)) is the vertical meeting count divided by the horizontal meeting count at the firm-period level. Inter, interdepartment; Intra, intradepartment; Interdept., interdepartment; Intradept., intradepartment; Hor., horizontal; Vert., vertical; Adj., adjusted.

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Figure 2. (Color online) Interdepartment and Intradepartment Communication

Notes. We plot the OLS regression coefficients for the ratio of interdepartmental to intradepartmental meetings (top). Below we plot the OLS regression coefficients for interdepartmental communication (bottom left) and intradepartmental communication (bottom right). These results are reported in Table 5 for 89 firms with available data. The CEO turnover occurs in period 0. We use the period before the transition, period -1, as the base period. These results include firm-level fixed effects and standard errors clustered at the firm level.

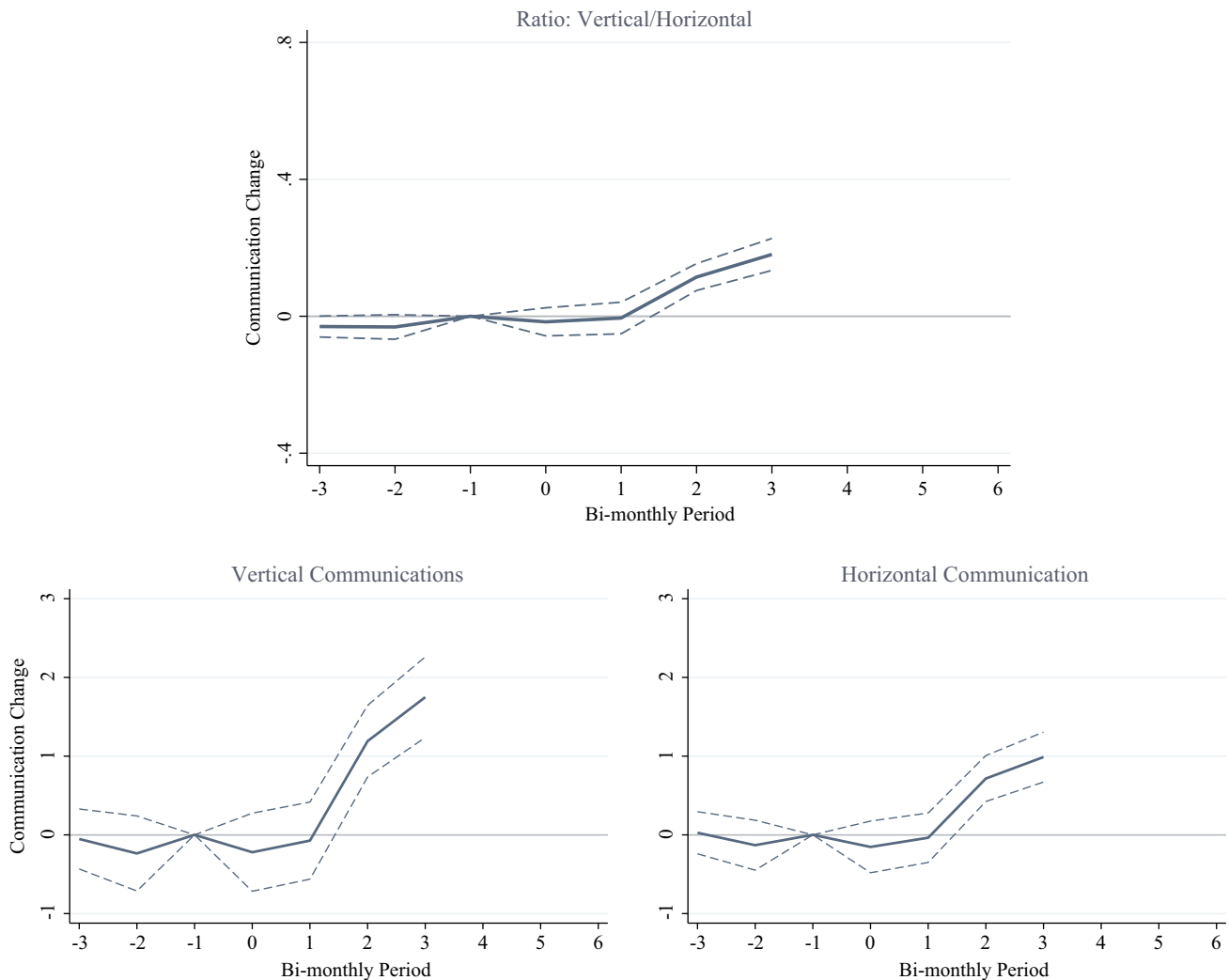
4.4. The Role of Uncertainty

We now study whether communication flows differ according to the intensity of the uncertainty surrounding the CEO change. To get at this aspect of the transition, we exploit differences in the nature of the CEO transition. In particular, we examine the role of transitions marked by a greater C-suite overhaul (i.e., when higher turnover of the TMT or other board positions accompanies CEO transitions) and the appointment of an *internal* (i.e., prior manager promoted *internally* within the firm) versus *external* (i.e., not a prior manager at the firm) CEO. Prior literature supports that increased organizational change, particularly TMT change, reduces stability in the organization (Keck and Tushman 1993, Srivastava 2015). We argue that uncertainty is greater when the CEO transition coincides

with a broader organizational overhaul or when appointing a person who has not previously worked at the firm. For instance, many were concerned about greater uncertainty at Starbucks when Howard Schultz left because both the long-time CEO and CFO transitioned in a short period of time. As another example, CEOs from within the firm have established networks within the firm that may attenuate uncertainty in the organization. Moreover, they have valuable private information about the firm and its employees and know the firm's culture first-hand.

To study these aspects of the data, we calculated additional turnover measures from BoardEx. More than two-thirds of firms in our sample reported top manager or board member turnover during the month of the CEO turnover or the three months afterward.

Figure 3. (Color online) Hierarchy Summary (Firm-Level Data)



Notes. We plot the OLS regression coefficients for the ratio of vertical to horizontal meeting count at the top. Then below, we plot the OLS regression coefficients for vertical communication (bottom left) and horizontal communication (bottom right). These results are reported in Table 5 for 88 firms with available data. The CEO turnover occurs in period 0. We use the period before the transition, period -1 , as the base period. These results include firm-level fixed effects and standard errors clustered at the firm level.

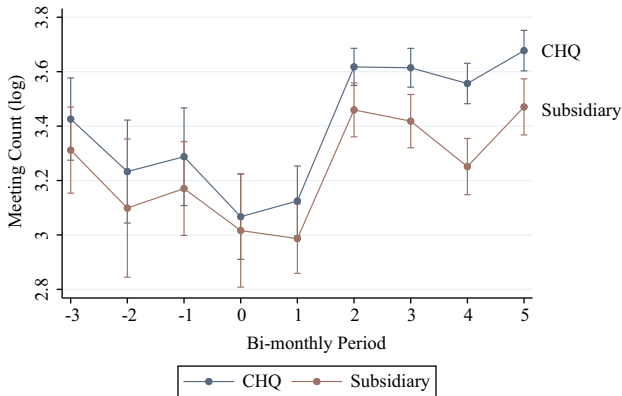
We also examined whether the new CEO was already employed by the firm using BoardEx data (internal transitions: 51%). We find that firms with *lower TMT turnover* (Figure 5(a)), *lower board turnover* (Figure 5(b)), and *internal CEO replacement* (Figure 5(c)) experience a greater medium-run recovery in communication after the CEO transition event. In summary, the data suggest that more extensive C-suite overhauls do not affect the short-run drop in communication but translate into faster recovery in communication in the medium run.¹²

4.5. Summary

The analysis shows that CEO changes map into a distinct pattern of internal communication dynamics: namely, a sharp decline in communication in the short run up until 4 months after the transition, a gradual

increase in the medium run 5 to 12 months after the transition, and stabilization around one year after the CEO is in charge.

Additionally, the intensity of the recovery in communication varies across different types of meetings both across firms and within a single firm. First, meetings more closely related to central versus local objectives (i.e., vertical and interdepartmental meetings) or to the CEO (CHQ versus subsidiaries) recover more quickly in the medium run, suggesting that the rebound in communication is at least in part driven by central communication efforts. Second, the medium-run recovery in communication is swifter in transitions that do not experience dramatic organizational overhauls alongside the CEO change (i.e., firms that do not change a large fraction of the TMT or board and firms that

Figure 4. (Color online) Heterogeneity Based on HQ vs. Subsidiary Location

Notes. This figure shows the difference between CHQ-level communication and subsidiary-level communication for all 102 firms. The mapping is based on whether the employee is based in the same city as the corporate headquarters or in a different city. We also examine the interaction term and find the effect is only significant in period 4. We run a joint F-test on periods 3, 4, and 5 to show that the effect is significant during this period but driven by period 4.

appoint an internal CEO). These findings are consistent with the interpretation that greater uncertainty dampens internal communication flows, either because it takes longer for the CEO to determine a new strategy or because increased ambiguity reduces alignment and the incentives to communicate.

Overall, these results provide novel evidence that CEO transitions are followed by a distinct change in internal communication flows. Although, in the absence of exogenous variation in CEOs and of a proper control group, we are not able to interpret these variations as solely determined by the change in CEO, we are able to rule out short-term reverse causality arguments (because the changes in communication are stable before the change in CEO), as well as simple seasonality arguments (because the data show heterogeneity across communication types that would not be present had the results been generated entirely by seasonality effects).

In the next section, we present a simple model to interpret these results in a single unifying framework that models explicitly how a change in uncertainty shapes the incentive to communicate and how investments in central communication may restore this incentive.

5. Interpreting CEO Turnover, Uncertainty, and Intrafirm Communication

In this section, we provide a verbal description of a highly stylized model of intrafirm communication based on Alonso et al. (2008), adapted to the context of a CEO turnover, and show that the model can help us interpret all these results within a single conceptual

framework (the analytical model is described in Online Appendix D). The model provides a parsimonious framework that includes key insights about coordination in organizations that go back to corporate leaders like Sloan (1964) and scholars like Hayek (1945).

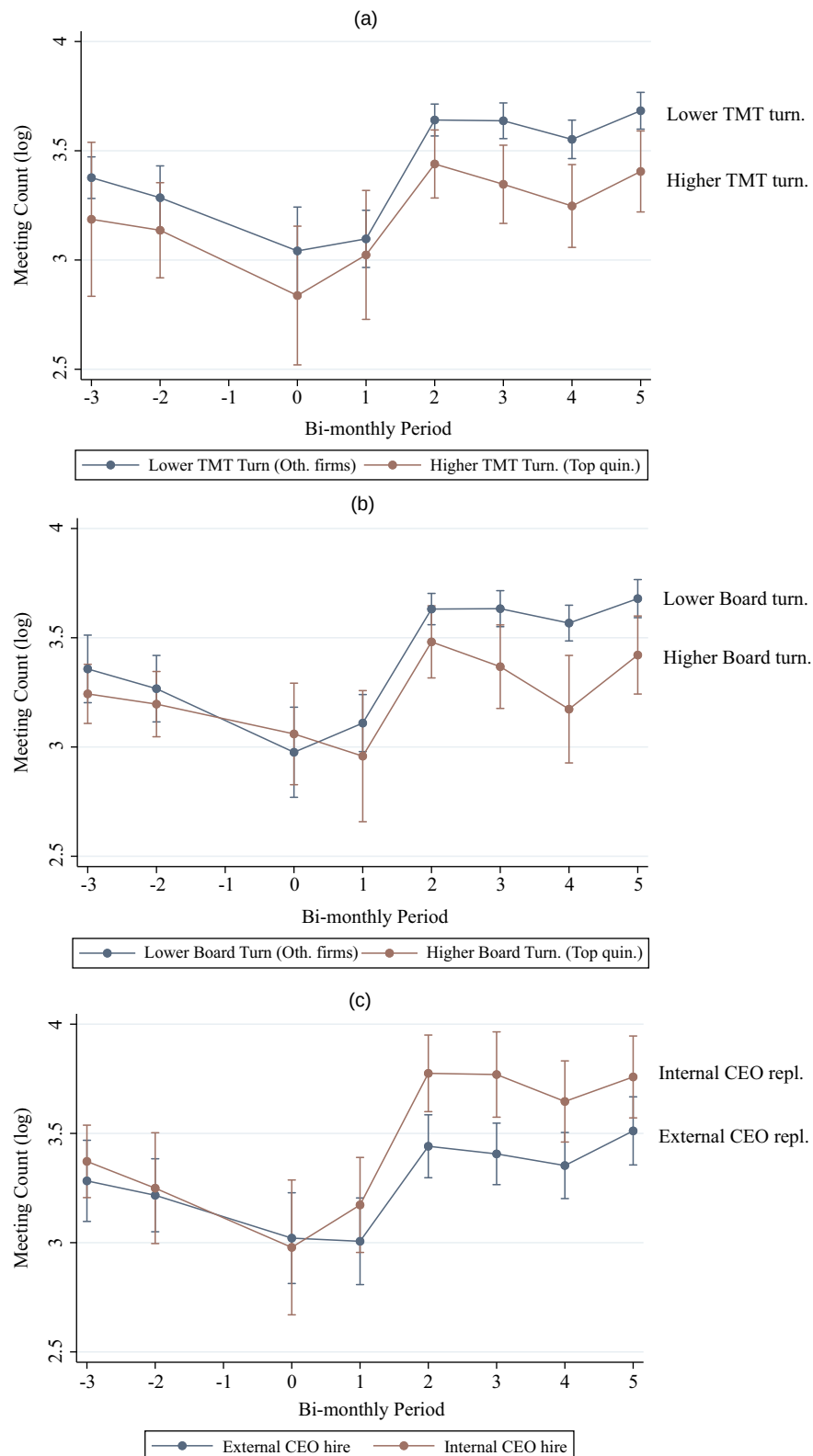
The starting point for the model is the idea that CEO transitions typically result in heightened organizational uncertainty compounded by other firm-level changes, such as turnover of other top managers, changes to the board composition, divestment of prior strategies, etc.

In principle, this context may prompt an increase in internal communication. For example, precisely to overcome possible anxieties and uncertainty in the organization, new CEOs may want to communicate new directions shortly after being appointed, or employees may seek information to understand how to adapt their work to the new leader or seek instructions. However, two related but distinct factors may prevent this from happening, and actually lead to a decline in internal communication. First, it may take time for a new CEO to formulate a new strategy, or to effectively communicate how the goals of individual employees fit with the new strategy. This may leave employees with little to communicate about. Second, uncertainty may breed misalignment within the organization. As shown in Alonso et al. (2008), the misalignment lowers agents' incentives to communicate with each other in equilibrium, especially when communication involves nonverifiable information (such as that exchanged in meetings). The immediate decrease in meetings and email communication found in the data is thus consistent with the idea that, in the short run, strategic communication behavior more than offsets the pragmatic need to communicate or learn about a new direction for the firm.

However, the model also recognizes that the new CEO is not a passive agent; over time, the new CEO will develop, pursue, and communicate her new vision to the organization (Schein 1994). This involves both understanding the firm's needs and constraints and communicating new objectives. For instance, CEOs may increase communications as a consequence of divisional managers having private information (i.e., asymmetric awareness) about local conditions and the fit of these more coordinated decisions with the external environment. Others highlight similar issues that arise with increased coordination, such as employees engaging in nonproductive or "wasteful" activities to influence decision making (Milgrom and Roberts 1988, Powell 2015) which could also determine more communication effort.

Therefore, as time progresses, we should expect an increase in internal communication after the updated strategy is set and shared with employees. Once the CEO establishes and communicates the new strategy, communication intensity returns to its pretransition level. This framework not only explains the medium-

Figure 5. (Color online) Heterogeneity Across CEO Transitions with More vs. Less Uncertainty



Notes. (a) Top management team turnover. Sixty-seven firms experience corresponding TMT turnover during the period from the month of the CEO turnover until three months after the CEO turnover (source: BoardEx). We calculate higher turnover (red line) as the top quintile of TMT turnover rates; the blue line represents the remaining firms. Results are for meetings only. Oth., other; Turn., turnover; quin., quintile. (b) Board

turnover. Fifty-four firms experience corresponding board member turnover during the period from the month of the CEO turnover until three months after the CEO turnover (source: BoardEx). We calculate higher turnover (red line) as the top quintile of board turnover rates; the blue line represents the remaining firms. Results are for meetings only. (c) Internal vs. external CEO replacement. Fifty-one firms hire a CEO internally, meaning the individual becoming CEO already worked at the firm (source: BoardEx). The red line represents the firms that experienced an internal replacement, and the blue line represents external replacement. Results are for meetings only.

run recovery in meetings and email intensity, but it also explains the greater intensity in managerial, vertical, interdepartmental, and CHQ-based communication flows, which we assume to be more closely related to central coordination versus local activities. Moreover, it explains the faster recovery in communication in situations where the CEOs may presumably have an easier time overcoming the uncertainty associated with the transition (i.e., promoting an internal manager to CEO, where there is less TMT turnover).

6. Conclusion

We use email and meeting metadata on 102 firms to examine how CEO turnover impacts internal communication patterns. To our knowledge, this is the first time that longitudinal measures of intrafirm communication could be analyzed and linked to meaningful organizational events across multiple firms and longitudinally.

Examining within-firm communication changes before and after CEO transitions, we find that CEO turnovers are associated with large communication changes within firms. Email and meeting intensity drops significantly during the first three months after the CEO transition. Around five months after the CEO transition, there is a large increase in email and meeting communication, compensating for the initial drop. The increase in communication is more pronounced in communication modes reflecting coordination activities from the center of the organization. We discuss possible interpretations of our findings and show that they are consistent with a model of intrafirm strategic communication, in which a CEO change and the associated uncertainty and misalignment dampen incentives to communicate.

Overall, these results provide the first large-scale empirical evidence that internal communication flows are highly responsive to significant organizational events—such as CEO turnovers. The data also show that the response of internal communication flows to the same organizational event can vary considerably across firms and over time. These findings shed light on how hard-to-measure, intangible aspects of organizations—including the strength and nature of internal communication—react to changes in management. Moreover, our research design and theory pinpoint inflection points in internal communication in the year following a CEO transition, allowing us to explore previously unexplored connections between CEO transition, uncertainty, and information flows.

This study does not offer a conclusive word on the impact of organizational events on interfirm communication. Instead, we view this paper as a first step to studying the determinants of internal communication flows across large samples of firms, raising questions and opening avenues for future research. As increased digitization enables human resource capabilities, communications metadata will be more commonplace, inviting researchers and managers to analyze information flows and helping test extant organizational theories about information flows within firms.

Although the ability to capture and analyze digital communications metadata opens the door to additional studies that directly measure information-processing activities and provide insight into how information flows through heterogeneous organizational structures, much work remains to be done. One possible use of the data considered in this paper is to study the structure of internal communication networks in isolation and in conjunction with the adoption of new technologies or organizational structure changes. Furthermore, text from emails or messaging, though extraordinarily difficult to obtain for many firms, could be analyzed to identify discussion topics, enabling researchers to grasp the sentiments expressed in these interactions in addition to changes in communication flow intensity (as we do in this paper). We leave these studies for further research.

In summary, we see promise in using email and meetings metadata—typically already passively collected by firms—to study unobserved aspects of the inner workings of organizations. We hope our study can provide a possible blueprint to advance the exploration of these data.

Acknowledgments

The authors thank Iwan Barankay, Wouter Dessein, Robert Gibbons, Stephen Hansen, Mitch Hoffman, Adam Kleinbaum, Niko Matouschek, Meg Meyer, Antoinette Schoar, Toby Stuart, seminar participants at Columbia, and participants at the Spring 2021 NBER Organizational Economics, 2021 Strategy Science (HBS), 2021 Ghoshal (LBS), 2021 DRUID (CBS), and the 2020 People and Organizations (Wharton) Conferences for insightful feedback.

Endnotes

¹ Cziraki and Jenter (2022) report that about 13% of S&P 500 firms experience a change in CEO in a typical year between 1993 and 2012. Gompers et al. (2023) estimate that in a large sample of private equity-backed firms observed between 2012 and 2016, 15.4% change CEO in a typical year.

² Recognizing the importance of new CEOs charting a novel course for their firms, a large body of prior research in management, economics, and accounting examines the impact of CEO turnover on measures of firm performance (Murphy and Zimmerman 1993, Denis and Denis 1995, Shen and Cannella 2002, Bertrand and Schoar 2003, Fee et al. 2013, Pan et al. 2015, Bandiera et al. 2020).

³ Employees within the firm must communicate to coordinate their actions to land updated strategies. More efficient and effective communication can reduce transaction costs in decisions to internalize aspects of operations (Williamson 1979), overcome the cognitive limitations of employees (Simon 1947), increase the ability of firms to analyze and understand information (Arrow 1974), and make “sense” out of changes in firm strategy (Weick 1995), and is one of the main reasons why firms form (Coase 1937). In multidivisional firms, employees communicate to coordinate decision making across departments and align those decisions to local conditions to achieve the firm’s goals (Marshak and Radner 1972, Alonso et al. 2008).

⁴ See <https://news.microsoft.com/2014/02/04/microsoft-board-names-satya-nadella-as-ceo/>.

⁵ See <https://www.nytimes.com/2015/05/03/technology/microsoft-yes-microsoft-has-a-far-out-vision.html>.

⁶ See <https://www.businessinsider.com/inside-jcpenney-2013-2>.

⁷ See <https://www.businessinsider.com/inside-jcpenney-2013-2>.

⁸ From these data sources, we code CEO transitions as when employees with the following role titles transition: CEO, CEO/CFO, CEO/MD, Chairman/CEO, Chairman/MD, Chairman/President/CEO, Global CEO, President CEO, Vice-Chairman/CEO, MD, and Group MD.

⁹ The email provider calculated seasonality factors using 2022 data on a sample of 100 firms of similar size as those in our data (this is because when we asked the email provider to compute these factors, the additional data from the year examined in our paper had already been erased). The provider calculated the mean December decrease in meeting counts as −6% and email count as −8%. In additional analysis (Online Appendix B.5) further discussed in Section 4.2 (Robustness Checks), we explore the sensitivity of the results to alternative (lower and higher) seasonal adjustments.

¹⁰ In our sample, only one CEO transition was driven by truly exogenous events, i.e., CEO illness or death.

¹¹ The data used to examine employee interactions have several limitations. First, we have these data for 88 firms. Second, these data are available only from six months before the CEO transition until eight months after and were collected from the email provider after the first extraction of the primary data (see Online Appendix A.3) for our main analyses (i.e., without a distinction between horizontal and vertical communication). Third, in the period of time between collecting the first and second data sets, the email provider could no longer provide user-level email communications metadata because of updated legal guidance regarding their compliance with GDPR. We were instead provided firm-level aggregates. Fourth, email metadata were inaccessible for the bulk of firms in our sample; they provided meeting metadata only.

¹² We do not find significant heterogeneity in communication according to the reason for CEO turnover. We do this by grouping transition reasons into three broad categories based on whether the transition occurred at a moment of positive, negative, or neutral firm performance (see Online Appendix Figure C.2 for details): negative, transitions in which the CEO appeared to have been fired for underperformance or to make space for another manager perceived to be a better fit for the organization (fired/underperformed, 20 cases, and CEO leaving after a merger or acquisition, 5 cases); positive, transitions in which the CEO appeared to have been promoted to another leadership position within the corporate group or poached by another organization (this includes within-firm transfer, 31

cases, and poached/new venture, 8 cases); neutral, transitions in which the CEO transition was neutral with respect to performance (retirements, 17 cases, and death, 1 case); other, those that could not be classified in any of these categories based on public information (21 cases). The lack of significant heterogeneity, however, could be driven by the limited number of firms in the subsamples.

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