

Who Performs Better After Promotion?

Collaboration Signals and Managerial Performance

Gordon Scott

Washington University in St. Louis

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Abstract

Selecting the right individuals for management is central to organizational performance, yet firms have little reliable guidance for identifying managerial potential before a promotion, in part because a manager creates value through others and the relational skills this requires are difficult to observe and easy to game. I argue that the way workers choose to collaborate reveals this potential, and that a distinction prior work has collapsed is essential to reading it. Drawing on a novel dataset of customer relationship management records covering 69,974 sales workers across 69 firms, I separate the worker who organizes a collaboration by inviting others onto a deal from the worker who is invited to contribute to one. The two behaviors carry sharply different information. A one standard deviation increase in contributor collaboration predicts a 19.4% higher probability of promotion and, among those promoted, subordinates who close 13 to 15% more deals than under the average manager, while organizing collaboration predicts neither and strong individual sales performance predicts a lower chance of promotion. Because the design is correlational, I build the case from convergent evidence: the contributor result holds across hundreds of specifications, persists years after promotion in a way that rules out a simple practice effect, and is corroborated by interviews revealing that peers extend invitations only to colleagues whose interpersonal skill, trustworthiness, network ties, and expertise they expect to improve a deal. Peer invitations thus operate as an informal screen that aggregates many incentive-compatible judgments into a signal firms can observe but workers cannot fabricate. A final analysis shows that the strongest individual sellers would often make effective managers yet are rarely promoted, because the production lost in moving them out of a selling role can exceed the value they would add as managers. The findings suggest that much of the information firms need to identify future managers already exists in the behavioral data they routinely collect.

6 Introduction

Selecting the right individuals for management positions is key to long-term organizational success, and one of the most important avenues for filling these roles is internal promotion (Allen

9 et al., 2023; Bidwell, 2011; Dlugos and Keller, 2021). Yet extant scholarship provides limited
10 guidance for decision makers seeking managerial potential within their current workforce (Ray,
11 2024). What guidance exists has largely been inferred from the characteristics of people who
12 already hold managerial roles, often using survey based or otherwise gameable measures collected
13 after promotion (Hoffman and Tadelis, 2021). One promising alternative comes from Benson, Li,
14 and Shue, who document a positive link between pre-promotion collaboration and post-promotion
15 performance, supporting the longstanding belief that interpersonal skills matter for management
16 (Katz, 2009; Yukl, 2012). The intuitive conclusion is that firms should promote those who organize
17 collaboration among their peers, and in many contexts, this may be the case. But under what
18 conditions might the organizers of successful peer teams be worse candidates for leadership than the
19 colleagues they invite onto those teams?

20 In this paper I theorize and empirically demonstrate that when individual contributors form
21 self-organized teams, being invited to contribute to a team can be a stronger signal of managerial
22 potential than organizing one. The existing literature has largely treated collaboration within
23 this context as a single undifferentiated construct, but if different forms of collaboration reveal
24 meaningfully different worker types, then separating them is essential to identifying who should
25 lead. The logic rests on an informational asymmetry. Individual contributions within teams are
26 notoriously difficult for organizations to isolate, so management must often rely on the firsthand
27 knowledge of peers to surface them (Chan et al., 2014a,b). Workers who form self-organized teams
28 must choose their collaborators carefully, as additional members can affect performance, dilute
29 rewards, and make decisions and coordination more difficult (Staats et al., 2012; Summers et al.,
30 2012). Given the detailed knowledge workers have of peer capabilities and their strong incentives to
31 invite only colleagues who will significantly contribute to project goals, a worker who is repeatedly
32 invited has been repeatedly judged valuable by peers who bear the cost of that judgment. Such
33 repeated invitations may reveal valuable human capital complementarities, including interpersonal
34 skill, useful relationships, a prosocial orientation, and domain expertise. These may be the same
35 attributes that combine with the capabilities of others to lift team performance, and that lie at the

36 heart of managing well.

37 An alternative signal of this kind matters because the conventional intuition, that promotions
38 should go to top individual performers, is problematic for three independent reasons. First, the Peter
39 Principle is real, performance in one role does not guarantee performance in the next, and firms that
40 overweight individual performance in promotion decisions end up with underperforming managers
41 (Benson et al., 2019). Second, promoting top performers imposes a hidden cost, since these
42 workers are difficult to replace and moving them into leadership removes their direct contribution to
43 production. Third, star performers are increasingly resisting leadership roles, leaving firms with
44 fewer viable candidates even when they wish to promote from the top (Bucher et al., 2023; Dyer
45 et al., 2021; Gleeson and Knights, 2008). Together these problems make clear that firms need a way
46 to identify managerial potential that does not simply reward individual output. This paper argues
47 that one such signal lies in how workers choose to collaborate.

48 I test this hypothesis in a business-to-business sales context, a setting where the choice of
49 whom to promote is both consequential and notoriously difficult. Using Customer Relationship
50 Management (CRM) data on 69,974 salespeople and managers across 69 firms, I estimate both
51 who is most likely to be promoted and which promoted workers go on to be the most effective
52 managers. Beyond its relevance for research on human capital misallocation and the Peter Principle,
53 the sales setting offers the following advantages (Benson et al., 2019). It provides clean performance
54 measures that are consistently comparable across workers and firms. Crucially, it is also a setting in
55 which individual contributors choose for themselves whether and with whom to collaborate, so that
56 each collaboration reflects a real judgment by peers about a colleague's value and fit. This makes
57 the collaboration signals at the heart of my argument observable in a way that assigned teamwork
58 would not allow. The setting also introduces an interesting complication: the performance-based
59 compensation structure makes promotion financially unattractive for star salespeople. Even if the
60 question of whom to promote could be simply answered by "promote the best salesperson," those
61 salespeople would be the least likely to accept the promotion. Furthermore, their promotion would
62 bring substantial costs to the organization by removing them from the exact activity that the sales

63 organization targets, closing deals.

64 The data bear out this incentive structure. A one standard deviation increase in individual sales
65 closed over the prior year is associated with a 17% reduction in the probability of promotion the
66 following month, indicating that firms are either less willing or less able to promote their strongest
67 individual sellers. Pertaining to collaboration, I first follow prior work by treating collaboration
68 as a single undifferentiated measure. My data replicates past findings, showing that collaboration
69 predicts promotion, a one standard deviation increase in sales closed as part of any collaboration
70 is associated with a 17.7% increase in the probability of promotion (Benson et al., 2019). The
71 crucial result emerges when this aggregate measure is decomposed into its organizer and contributor
72 components. Organizer collaboration becomes statistically trivial, while contributor collaboration
73 remains a strong predictor, with a one standard deviation increase associated with a 19.4% increase
74 in the probability of promotion. These findings provide initial confirmation that not all collaboration
75 types are equal, and that whether consciously or not, firms do not place the same premium on all
76 collaborative experiences.

77 Nor should they. Conditional on promotion, I demonstrate that organizer and contributor
78 collaborative behaviors have very different relationships with managerial performance. Experience in
79 organizing collaborative teams has no predictive power for future managerial performance. Whereas,
80 a one standard deviation increase in pre-promotional contributor collaboration is associated with
81 managers whose subordinates close between 13 to 15% more deals than they would under the
82 average manager. Individual sales ability is also positively associated with managerial performance,
83 meaning the strongest sellers would tend to make better managers even though they are the least
84 likely to be promoted. Yet the boost these star sellers would provide to their subordinates does not
85 offset the loss of their own production. Taken together, the results suggest that firms seeking to
86 maximize future sales should prioritize workers who are frequently invited to collaborate, while
87 being cautious about promoting their star individual contributors.

88 Next, I test two potential mechanisms to further understand why contributor collaboration
89 predicts managerial performance. The first is that contributors simply got a head start, having

practiced supporting and coordinating with others before promotion. The second is that being invited reveals a durable worker type with above-average managerial potential. To distinguish them, I reconstruct the managerial performance measure over several windows of post-promotion data: the first six months, the first year, the full period, and the full period excluding the first year. If the advantage were merely a head start, it would be largest immediately after promotion and fade as other managers gained experience. If it reflects a durable type, it would persist. I find evidence of both, with the effect declining modestly over time but remaining large and significant even when the entire first year after promotion is excluded, indicating that contributor collaboration reveals something durable rather than a temporary head start.

Finally, I draw on semi-structured interviews with sales professionals at every level, from individual contributors to chief revenue officers, to understand why being invited to collaborate predicts managerial success. A consistent account emerged. Because inviting a peer onto a deal means splitting a commission and exposing a client relationship, workers extend invitations carefully, reserving them for colleagues whose interpersonal skill, trustworthiness, prosocial orientation, network ties, or domain expertise can be expected to improve the outcome on the deal. These are attributes that a long line of research has tied to effective management, each predicting how well a person performs once responsible for the output of others (Artz et al., 2017; Balkundi and Harrison, 2006; Dirks and Ferrin, 2002; Hoffman and Tadelis, 2021; Podsakoff et al., 2009). A worker who is consistently invited to collaborate has therefore been repeatedly judged, by peers who bear the cost of that judgment, to possess a bundle of relational attributes that would likely drive effective management if they were promoted. In this sense peer invitations operate as an informal screening process, surfacing information about managerial potential that a firm's own performance metrics cannot capture. Several interviewees added that these collaborative experiences can also draw capable workers toward leadership by giving them an early taste for developing others, suggesting that contributor collaboration reveals worker type not only to the firm but also to the worker.

This paper makes four contributions. First, it shows that treating collaboration as a single behavior conceals a critical distinction: once collaboration is separated into its components, the

117 entire promotion and performance signal is driven by contributor collaboration, so a firm that
118 reads the aggregate signal risks promoting the wrong collaborator and absorbing the long-term
119 costs of that mistake. Second, it brings a large and unusually detailed dataset capable of observing
120 incentive-compatible behavior before promotion, which prior data has not been able to capture.
121 Third, it pairs semi-structured interviews with empirical analysis in an abductive approach that
122 moves beyond documenting the result to uncovering the mechanisms behind it. Finally, it shows
123 that a firm's best producers often stay out of management even when they would manage well, and
124 that both the firm and the worker may have good reason for this. I develop these arguments in turn,
125 beginning with the theory that motivates the distinction between organizing collaboration and being
126 invited into it.

127 **Internal Promotions vs. External Hires**

128 A central question for any firm filling a leadership role is whether to promote from within
129 or hire from outside, and promotional scholarship has established a strong case for promoting
130 from within. Compared to external hires, internal promotes perform better, at least initially, cost
131 less, and leave the firm at lower rates (Bidwell, 2011). Because this performance gap is widest
132 immediately after hiring and narrows only over a period of years, firms that need a manager
133 performing at full capacity from the start are best served by promoting someone already familiar
134 with the organization. Promoting from within carries further benefits beyond the promoted worker:
135 when internal candidates are passed over in favor of outside hires, their perceived chances of future
136 advancement fall, leading to dysfunctional turnover (Allen et al., 2023; Dlugos and Keller, 2021).
137 Yet despite these clear benefits, little scholarship addresses how firms should identify which current
138 employees actually have leadership potential (Ray, 2024).

139 **Problems with Promoting Top Performers**

140 The research we do have focuses heavily on whether an individual's performance prior to
141 promotion can predict managerial success, and within this body of work several well-researched

papers report conflicting relationships between the two (Benson et al., 2019; Kim and Makadok, 2022; Schleu et al., 2024; Schleu and Hüffmeier, 2021). Even so, firms continue to lean on performance: Benson, Li, and Shue show that when making promotion decisions, organizations systematically overweight individual performance, producing suboptimal managerial outcomes. One justification for promoting top performers despite this uncertainty rests on tournament theory and the motivational power of competition (Connelly et al., 2014; Eriksson, 1999; Lazear and Rosen, 1981). On this view, the link between pre-promotion performance and managerial potential is beside the point; the priority is to spur competition by rewarding top performers with more desirable positions, motivating front-line employees to push their productivity to the limit.

Yet tournament theory's explanatory power here relies entirely on the assumption that promotions are desirable for top performers. This assumption is becoming increasingly tenuous as workers resist leadership in greater numbers, and in some contexts it is simply false (Aycan et al., 2024; Bucher et al., 2023; Dyer et al., 2021; Knight, 2024). The sales environment I study typically rewards high performers with monetary and non-monetary rewards that exceed those of their managers. One professional I interviewed for this paper put it simply:

The score card is how much you earn and whether you are materialistic or not that's how you keep score. And a good salesperson typically makes 25–100% more than their boss.

Another emphasized the non-monetary side:

As an AE (Account executive) you generally have a lot of freedom in your day and in your calendar. I get to do what I want to do when I want to do it and as long as I'm hitting quota and driving pipeline my schedule is a lot more free. I look at my director and I see that he is always in meetings, he's always hiring, he's always coaching. I don't want to do that.

The overwhelming consensus from my interviews was that accepting a managerial position makes sense only for those with an intrinsic motivation to lead or long-term aspirations on the leadership track. As I will show, this is consistent with the data, which reveal a strong negative relationship between sales performance and promotion.

Finally, promoting top performers carries the significant downside of losing their front-line production. The better a worker is at producing, the more value they must generate as a manager

172 simply to offset what the firm gives up by moving them out of the role. Taken together, these three
173 problems, the unreliable link between individual performance and managerial success, the resistance
174 of strong performers to promotion, and the production lost when they are promoted, make clear that
175 individual performance is a flawed foundation for promotion decisions. What firms need instead
176 is a reliable and incentive-compatible signal of managerial potential that can be observed before
177 promotion.

178 **Collaboration and Management**

179 Organizational scholars have long considered interpersonal skills to be critical for leadership
180 success (Katz, 2009; Yukl, 2012). However, because much of this research relies on survey data
181 or measures drawn from people already in managerial roles, it has not produced reliable ways to
182 identify these skills before promotion that are resistant to gaming (Hoffman and Tadelis, 2021). I
183 propose that collaborative behavior, measured as participation in voluntary, self-organized teams,
184 serves as a useful proxy for interpersonal skill. Because such teams arise organically and without
185 assignment, repeated inclusion in collaborations can be interpreted as a signal of working well with
186 others. We would therefore expect workers who engage in more self-organized collaboration to
187 possess greater interpersonal skill, making them stronger candidates for management. Benson, Li,
188 and Shue provide empirical support for this idea in their recent paper on The Peter Principle (Benson
189 et al., 2019). Although it is not the focus of their study, they show that workers who collaborate
190 more tend to become better managers.

191 Strategic human capital scholars conceptualize collaboration through the lens of human
192 capital complementarities, defined as “synergistic relationships between two or more human capital
193 resources” (Ployhart and Cragun, 2017). Both individual and group-based human capital resources
194 originate in the knowledge, skills, abilities, and other characteristics (KSAOs) of employees. A
195 central task of talent management is finding ways to combine these KSAOs to create or discover
196 complementarities (Ployhart and Hale, 2014). I propose that when workers are free to work either
197 individually or in self-organized teams, and are sufficiently incentivized to maximize their own

198 production, repeated collaboration becomes an indicator of human capital complementarities. The
199 reasoning is straightforward. If a worker gains nothing from collaborating with a poorly matched
200 peer, and collaboration is never imposed on them, they will choose to collaborate only when doing
201 so combines their KSAOs with a peer's in a way that raises their joint output. Under these conditions,
202 a worker who is repeatedly included in self-organized teams is one whose KSAOs reliably generate
203 complementarities with others.

204 Crucially, some KSAOs are more likely to generate complementarities than others. A worker
205 who is agreeable or has a prosocial orientation may produce complementarities more readily than
206 a stubborn or selfish colleague, and rare or hard-to-obtain knowledge or skills may be especially
207 sought after as inputs to complementarity (Ployhart et al., 2014). We would expect workers with
208 these complementarity-generating attributes to collaborate more than others. Moreover, the value
209 of such complementarity-generating KSAOs is unlikely to be uniform across organizational roles,
210 and is likely to be especially high in managerial ones. Unlike individual contributors, for whom
211 collaboration is discretionary and contingent on the task at hand, managers must work with and
212 through all of their subordinates to achieve collective goals. A manager's effectiveness depends on
213 combining and leveraging the diverse skills of an entire team, which places a premium on precisely
214 the KSAOs that generate complementarities. There is, admittedly, an important difference between
215 the two settings. A collaborator chooses whom to work with and can decline a poor match, whereas
216 a manager inherits a team and must generate complementarities across all of it, including with
217 subordinates they would not have selected. The managerial demand is in this sense the more difficult
218 one. But it draws on the same underlying capacity, and a worker who has repeatedly demonstrated
219 that capacity when free to choose has shown evidence of an ability that managerial roles require
220 under harder conditions.

221 **Directional Collaboration and Managerial Potential**

222 Collaboration is inherently directional among self-organized teams; every collaboration is
223 initiated by an organizer who invites one or more others to contribute to the effort. This directional

224 structure has been studied extensively in entrepreneurship and team formation research within
225 the context of founders and joiners (Klada, 2018; Law et al., 2025; Roach and Sauermann, 2015;
226 Van Lancker et al., 2023). Although both founders and joiners participate in new venture creation,
227 this literature establishes meaningful differences in how founding and joining behaviors shape
228 firm evolution and performance. Role theory offers a more general foundation for the same idea,
229 emphasizing that roles emerge through social interaction and that some individuals define and shape
230 roles while others adapt to them (Graen and Cashman, 1975; Wrzesniewski and Dutton, 2001).
231 Across these literatures, the lesson is consistent: when two or more people interact, the person
232 who initiates the interaction and the person who responds occupy meaningfully different positions.
233 Yet internal mobility research has historically treated all collaboration as equivalent. If organizing
234 and contributing are as distinct as these literatures suggest, then separating them may yield new
235 theoretical insight and distinct implications for promotion decisions.

236 I define the two roles as follows. The organizer is the worker who initiates a collaboration
237 by inviting others to contribute to a project of their discretion. The contributor is a worker who is
238 invited and accepts, joining a project of the organizer's choosing. Every collaboration involves at
239 least one organizer and at least one contributor, and a given worker may act as an organizer on some
240 projects and a contributor on others. The question this paper raises is whether these two behaviors,
241 both of which the prior literature would simply count as collaboration, carry different information
242 about a worker's managerial potential.

243 There are strong reasons to expect that organizing collaboration reveals managerial potential.
244 Initiating new collaborations has been shown to improve innovation, and self-organized collaborations
245 more broadly improve coordination, adaptability, collective ownership, and performance (Boss et al.,
246 2023; Druskat and Wheeler, 2003; Haas, 2010; Obstfeld, 2005; Wageman, 2001). These benefits
247 depend fundamentally on organizers, since self-organized collaborations would not form without
248 someone to initiate them. An organizer is, in effect, the engine of the collaboration, and a worker
249 who repeatedly takes on that role demonstrates initiative and a willingness to assume responsibility
250 for outcomes that extend beyond their individual production.

251 Beyond serving as the engine of collaboration, organizers exhibit competencies that map closely
252 onto the core work of management. Recognizing when a project would benefit from additional
253 resources, identifying the people whose skills would complement the effort, and successfully
254 deploying those people toward a shared goal are among the central responsibilities of a manager
255 (Judge et al., 2004; Keller, 2006; Morgeson et al., 2010). An organizer who assembles and directs a
256 productive team is performing, on a small and voluntary scale, precisely the task a manager performs
257 over an assigned team. On this logic, a track record of organizing collaboration would seem to be a
258 natural and visible signal of managerial potential, and arguably a more direct one than being chosen
259 to contribute.

260 **The Informational Value of Contributor Collaboration**

261 The case for organizers is intuitive, but a different approach would be to promote the worker
262 who consistently contributes the most value to collaborations. If firms could reliably identify
263 these high-value contributors, they too would represent strong candidates for leadership, where
264 success depends fundamentally on enhancing the output of others (Hoffman and Tadelis, 2021).
265 The difficulty is that management is poorly positioned to identify them. It is notoriously difficult for
266 management to isolate individual contributions to team output (Alchian and Demsetz, 1972; Staats
267 et al., 2012). Objective performance metrics are systematically imperfect measures of individual
268 ability when output is interdependent, and the subjective assessments that might compensate are
269 hard to verify and contract upon (Baker et al., 1994; Milgrom and Roberts, 1992). Without good
270 information about the value workers bring to collaborations, management struggles to distinguish
271 those who fill critical roles from those who are carried by others.

272 This identification problem is compounded by the strategic behavior of workers. When
273 subordinates know that their observed performance will shape future targets and career outcomes,
274 they have strong incentives to manage the signals management receives. Roy's classic ethnographic
275 study of a piecework machine shop illustrates the point (Roy, 1952). Workers on the factory floor
276 informally divided jobs by their earning potential. On jobs where earnings came easily, they

277 deliberately capped output at an agreed ceiling to keep management from lowering the piece rate;
278 on harder jobs, they reduced effort well below capacity, holding out for better rates. The workers
279 rationally concealed their ability from management, and as a result the shop operated at roughly
280 half its productive potential. More recent theoretical work formalizes this intuition, showing that
281 workers with career concerns strategically distort the signals employers receive about their ability,
282 with distortion strongest when performance is most consequential for advancement (Gibbons and
283 Murphy, 1992). Management's picture of individual worker quality is thus not merely incomplete
284 but systematically biased by the very workers it seeks to evaluate.

285 This informational asymmetry, however, runs in only one direction. While management
286 struggles to observe individual contributions within teams, workers are far better positioned to
287 assess the quality of their peers. Coworkers interact at close range. They observe problem-solving
288 firsthand, see how colleagues handle setbacks, and learn who elevates a team and who creates
289 friction. Management cannot observe these behaviors directly, but research shows it can surface
290 them by relying on the judgments of subordinates (Chan et al., 2014a,b). More importantly, when
291 workers are free to choose their own collaborators, they act on this knowledge directly. Hamilton,
292 Nickerson, and Owan document this dynamic in a garment factory that transitioned from individual
293 piece rates to group production (Hamilton et al., 2003). When workers were free to self-select into
294 teams, high-ability workers clustered together, even at the cost of short run pay losses, suggesting
295 they could identify each other's productive value in ways that objective metrics could not capture.
296 Experimental evidence similarly shows that self-selected teams form around complementary skills
297 and outperform randomly assembled ones (Chen and Gong, 2018; Fischer et al., 2020). The choices
298 workers make when free to collaborate thus open a window onto the superior knowledge of peers
299 that management cannot access on its own.

300 This informational structure is what makes the frequency of contributor collaboration a
301 uniquely valuable signal. Because voluntary collaboration is incentive compatible, a worker
302 organizes a collaboration only when the expected benefits exceed the costs, and those costs are real:
303 each additional member introduces coordination frictions, dilutes shared rewards, and complicates

304 decision-making (Staats et al., 2012; Summers et al., 2012). An organizer therefore invites a
305 colleague only when they expect that colleague to improve the team's prospects enough to justify
306 the cost. A worker who is repeatedly invited, across many different organizers and over time, is
307 one whom a broad and independent sample of peers, each exercising private judgment and bearing
308 real costs, has consistently judged to be a net positive contributor. This repeated, decentralized
309 endorsement aggregates many incentive-compatible evaluations into a behavioral record that
310 management can observe and that an individual cannot fabricate, since a worker cannot invite herself
311 onto others' teams. Moreover, the qualities that make a worker a sought-after collaborator are likely
312 to translate into managerial effectiveness, where supporting subordinates and leveraging diverse
313 team capabilities are core responsibilities. A worker who reliably enhances the output of peers has
314 demonstrated, through the revealed preferences of those peers, exactly the kind of value creation
315 that defines effective management.

316 **Collaboration Signals and the Limits of Individual Performance**

317 The contributor signal offers leverage on each of the three problems that make individual
318 performance an unreliable basis for promotion. First, where individual performance poorly predicts
319 managerial success, the contributor signal reflects a worker's ability to enhance the output of others
320 rather than their personal production, speaking directly to the capability management actually
321 requires. Second, where promoting a strong performer forfeits their production, the contributor
322 signal identifies managerial potential without requiring that a worker be a top producer, widening
323 the candidate pool beyond the high performers a firm can least afford to lose and allowing it to
324 promote for managerial potential while leaving its strongest sellers where they create the most value.

325 Finally, contributor collaboration may help firms address a challenge that Schneider's attraction-
326 selection-attrition framework highlights from the opposite direction: in promotional decisions, it is
327 not enough to select the right candidate, the candidate must also be attracted to the role (Schneider,
328 1987). In contexts where the best individual performers frequently resist promotion, firms face a dual
329 identification problem. They must determine both who would perform well as a manager and who

330 would be willing to accept the position. Workers who repeatedly accept invitations to collaborate
331 voluntarily commit time and effort to supporting others' projects without being assigned to do so,
332 demonstrating a willingness to invest in collective outcomes rather than exclusively maximizing
333 individual production. This behavioral pattern persists even when collaborative workers receive
334 monetary rewards for their participation, because accepting invitations still requires subordinating
335 one's own agenda to the needs of a peer's project. By repeatedly choosing to contribute to others'
336 efforts, these workers may reveal not only high complementary value but also a latent attraction to
337 the kind of work that management entails, providing firms with an informed basis for identifying
338 workers who are both capable of leading and predisposed to do so.

339 **Sales Context**

340 Sales is a critical function in nearly every firm, which makes it both broadly relevant for
341 organizational research and a setting where the choice of whom to promote carries real consequences.
342 The sales context also offers unusually clean performance measurement. Outputs are recorded,
343 observable, and consistently comparable across workers and teams in ways that few other functions
344 can match. These features have made sales a productive setting for research on teamwork, peer
345 effects, and individual performance (Benson et al., 2019; Chan et al., 2014a,b).

346 Sales work begins with a lead. Leads can be generated by workers themselves through cold
347 calls or by upselling existing clients, distributed by the marketing department based on territory,
348 passed along by a worker's external network, or shared by strategic partners in other departments
349 who sell different products. Senior management assigns team quotas to managers, who then divide
350 them among their subordinates. Compensation typically follows a scaled commission structure in
351 which the commission rate increases as workers meet and exceed quota, giving sales workers strong
352 financial incentives to close as many deals as possible.

353 Sales workers operate with substantial autonomy in how they execute their work. They control
354 their own schedules, can shift activities to accommodate personal commitments, and choose which
355 leads to pursue and how. They are responsible primarily for their own assigned deliverables and

356 often prefer this straightforward clarity and independence. One salesperson explained why they had
357 rejected a promotion into management:

358 *My reason why is that I can control my own trajectory in terms of sales. I can't*
359 *predict or control anyone else's.*

360 This independence shapes when and how they choose to involve peers in their work.

361 Collaboration in sales imposes real costs. Bringing another worker onto a deal requires
362 splitting the commission and introduces coordination costs that grow when partners are difficult to
363 work with. At the same time, sales workers possess different complementary KSAOs that make
364 them attractive collaborators, including deep product knowledge, established client relationships,
365 and strong general sales ability. Value can be added to a sale when complementary KSAOs increase
366 the sale amount, increase the probability the sale is won, or both. An organizer will only choose to
367 invite a peer onto a deal when they expect that peer to contribute more value to the collaboration than
368 they cost. Conversely, a contributor accepts an invitation when the shared commission is expected to
369 outweigh the opportunity cost of generating leads independently, when they want to build a reputation
370 as a team player, or simply when they value helping others. Successful collaborations allow workers
371 to update their expectations of peer value and the cost of working with them, increasing the chances
372 that collaborations will be repeated, whether within the same teams or with new partners who seek
373 out promising colleagues. Collaborations are unlikely to be repeated when they fail to win the sale
374 or when their costs outweigh their gains.

375 Sales workers face two distinct career paths. They can advance informally by building
376 reputation and closing larger deals, a path that offers effectively no upper limit on earnings. Or, if
377 offered a position, they can move into management, a fundamentally different role. Managers exist to
378 boost subordinate productivity by coaching them in product knowledge and sales technique, sharing
379 valuable client relationships, and orchestrating team effort toward collective goals. While managers
380 must have basic sales competence to be credible, their job is no longer to sell directly. Managers
381 typically earn more than the average individual contributor but less than the top performers on their
382 teams.

383 The manager path is unattractive to many top performers for reasons that go beyond compensa-

tion. The role is more demanding in both time and stress, and it shifts responsibility from individual deliverables to team outcomes. Managers lose much of the schedule control and autonomy that defines the individual contributor experience, since they must remain available to their team and coordinate with senior leadership. Manager pay is more stable but lacks the upside potential of an individual contributor's commission earnings. Additionally, thriving as a manager benefits from an intrinsic motivation to develop others. One Sales Director described the advice she gives to individual contributors considering the change:

If you're doing it because you think it's the next step, don't. If you're doing it cause you're bored, don't. If you're doing it because you think you wanna make more money and you think that's the way to do it, don't. You have to do it because it feeds your soul. If leadership does not feed your soul, and you're not doing it for the sole purpose of making people better and helping others get to what they want, out of their careers, out of life, then you're not doing it for the right reason. That's the decision I came to, and it completely changed my leadership style. I became someone who empowered others to get what they wanted, and that led me to be a leader that had number one teams.

This orientation toward developing others differs meaningfully from what drives success as an individual contributor, which perhaps is why the two career paths tend to attract and reward different types of workers.

The result is that individual contributor and manager roles are distinct in what they demand and what they reward. Workers with high sales ability who value control, autonomy, and earnings potential may be best suited to individual contributor roles. Workers with strong interpersonal skills and complementary assets that support the work of others may be better suited to management. Because the two roles draw on different orientations and capabilities, the ways workers engage in collaboration as individual contributors may carry meaningful information about which role suits them best. Examining how collaborative behavior varies among workers in this setting therefore offers a unique window into the question of how firms can identify managerial potential within their existing workforce.

412 **Data**

413 This paper uses a novel dataset containing high-frequency, micro-level details of sales worker
414 activities across 69 firms between 2015 and 2021. The data are provided by a software firm whose
415 products optimize sales productivity through tools such as automatic dialers, lead prioritization
416 ratings, and automated client contact prompts. Because clients must integrate their existing sales
417 data with the provider's software to enable its functionality, I have access to both data generated
418 through the software company's products and data generated through other channels and shared
419 with them. Access to the data is governed by a data sharing agreement between the provider and a
420 research team that is using the data to explore various research questions.

421 Data is generated as workers pursue opportunities throughout the sales funnel, starting from
422 initial leads and ending in completed sales. The core information on worker activity is generated
423 automatically whenever a task is completed. These tasks range from high-frequency actions such as
424 phone calls or emails to less common methods of communication such as in person meetings, texts,
425 or social media messages. Every task recorded targets a specific potential sale in the system and
426 each potential sale is assigned to one user who owns that sale. When a sale is either successfully or
427 unsuccessfully completed, it is updated in the system as closed with an indicator for whether the
428 sale was won or lost. I define collaboration as two or more workers performing tasks that target
429 the same potential sale. The owner of the sale is the organizer of the collaboration, and any other
430 workers who perform tasks on the same sale are contributors.

431 The hierarchical structure of each firm is established through user records. All employees
432 who interact with the sales database receive a unique user ID, and the database stores each user's
433 assigned manager along with the date of any change in assignment. Users sharing the same manager
434 are members of the same team. I identify a worker's promotion into a managerial role as the first
435 date on which the worker appears as the assigned manager of another user, in other words, the date
436 on which a worker is assigned their first subordinate.

437 With managers identified, I construct a measure of managerial performance to evaluate how

effective each promoted worker is in the role. Following prior research, I measure managerial performance as the boost in subordinate productivity that can be attributed to the manager, net of subordinate characteristics and other confounders (Benson et al., 2019; Hoffman and Tadelis, 2021; Lazear et al., 2016). The full construction and validation are described in the following section.

Constructing reliable measures of promotion and managerial performance requires data of sufficient quality and completeness, which is not uniform across the full dataset. The raw dataset includes 414 firms, 258.4 million targeted sales accounts, has records dating back to the 1990s, and fills over 4.7 TB of memory. However, data completeness varies substantially across firms and time, with strong improvements in more recent years. Because my research question requires reliable identification of managers, both to observe pre-promotion behavior and to attribute post-promotion outcomes, I restrict the sample to firms in which at least 50 percent of users have an identified manager in the database during the 2015 to 2021 window, and to firms with more than 50 active users in that window. I also remove users who never closed a sales deal, whether won or lost, to focus the analysis on active sales staff. The resulting dataset I use for my analysis comprises 69 firms, 69,974 workers, 2,678 of whom are promoted into managerial roles during the observation window, and more than 227 million completed tasks.

Each worker's panel extends from the first month in which they appear in the data to the last month in which any activity associated with them is recorded. Within this window, months in which a worker performed no tasks and was not associated with any opportunity activity are treated as months of zero activity rather than as missing observations. Activity-based variables are filled with zeros in these months, while assignment-based variables such as firm, manager, tenure start date, and gender are carried forward from the most recent observation. This approach captures genuine variation in monthly work intensity without dropping workers from the panel during slow periods.

To mitigate the influence of extreme values, I winsorize the variables used in the analysis at the 99th percentile prior to any further transformations. Sales-related variables in CRM data tend to exhibit heavy right tails driven by a small number of unusually large outcomes, and winsorization at this threshold preserves the meaningful variation in the distribution while preventing the most

465 extreme observations from disproportionately influencing the results. Table ?? reports summary
466 statistics for the key variables used in the analysis.

467 While this data offers substantial advantages for studying the relationship between pre-
468 promotion behavior and managerial outcomes, it does not include several variables that would be
469 useful for testing additional mechanisms. Compensation, customer characteristics, and worker
470 demographics beyond gender are not captured in the system, which limits the set of mechanisms I
471 can directly test. Additionally, while the data identifies tasks performed and the opportunities they
472 target, it does not capture the content or quality of those interactions, only that they occurred. These
473 constraints define the scope of claims this paper can support, but they do not undermine the central
474 analyses, which rely on the variables the data does capture with high reliability.

475 The combination of granular task-level data, the panel structure, and the constructed measures
476 of promotion, managerial performance, and organizer/contributor collaboration allows me to
477 contribute to the literature in new ways. The panel structure allows direct observation of worker
478 behavior and productivity before promotion as well as the productivity of subordinates after a worker
479 becomes a manager. Most prior research on the importance of interpersonal skills for managerial
480 performance has relied on surveys or other measures collected after promotion, which are subject
481 to gaming, recall bias, or post hoc rationalization (Derue et al., 2011; Hoffman and Tadelis, 2021;
482 Mumford et al., 2007). The granular detail of worker activities provides direct insight into what
483 workers do, how they interact with each other, and what they prioritize. Most importantly, because
484 each opportunity has a clearly identified owner and the data captures every worker who performs
485 tasks on each potential sale, this setting uniquely allows me to separate organizer collaboration from
486 contributor collaboration, a distinction that prior research has not been positioned to make.

487 **Methods**

488 This section describes the empirical strategy used to estimate the relationships between pre-
489 promotion behavior and two outcomes of interest: whether a worker is promoted into a managerial
490 role, and how effective they are in that role once promoted. I first describe my analysis predicting

491 whether workers will be promoted into management. Then I cover my approach to the primary
492 analysis that predicts managerial performance among the subset of workers who were promoted. I
493 conclude with a discussion of identification considerations and robustness testing.

494 **Independent Variables**

495 Both analyses use the same set of independent variables, which capture worker behavior and
496 productivity during the year preceding the focal month. For each worker-month observation, I
497 construct twelve-month rolling averages of monthly activity and productivity measures compiled
498 from the focal month and the preceding eleven months of data. Averaging worker behaviors and
499 productivity over twelve months ensures that the measures reflect long-term, habitual variation
500 across employees rather than short-term fluctuations in activity. Each variable enters the rolling
501 average after being demeaned at the firm-month level, so the resulting measure captures a worker's
502 behavior relative to the average behavior of their firm peers in the same period.

503 The key behavioral variables are:

- 504 • *Owner sales won*, defined as the count of sales the worker owned and successfully closed in
505 each month.
- 506 • *Lone wolf sales won*, defined as the count of owned sales won where no other worker
507 contributed tasks to the opportunity. This isolates individual sales performance that cannot be
508 attributed to collaborative effort.
- 509 • *Organizer collaboration*, defined as the count of owned sales won that involved at least
510 one other contributor. This captures the worker's effectiveness in initiating and managing
511 collaborative deals.
- 512 • *Contributor collaboration*, defined as the count of non-owner sales won in which the worker
513 performed at least one task targeting the opportunity. This captures the worker's effectiveness
514 when invited to support deals owned by others.

- *Total collaboration*, defined as the sum of organizer and contributor collaboration. This is used in the baseline specification before decomposing the collaboration signal into its two components.

[Insert Table 1 here]

Additional behavioral and productivity controls are also captured at the monthly level and averaged over the preceding year of data. These controls include the worker's win rate, number of tasks performed, share of tasks classified as high priority, share of tasks performed outside of standard working hours, share of tasks with populated notes, indicators of end-of-month task and sales clustering (capturing sandbagging behavior), team sales rank, an indicator for being the top seller on the team, and the average number of contributors involved in the worker's deals. Time-invariant or slowly varying controls include gender, tenure, and team size.

All variables are standardized using the full-sample standard deviation of the demeaned series, so coefficients can be interpreted in standard deviation units of within-firm-month variation.

Predicting Promotion

The first analysis estimates which pre-promotion activities predict whether a worker is promoted into a managerial role. The analytical sample consists of worker-month observations in the pre-promotion period for workers who have at least three months of data in the rolling window and who closed at least one deal during their time in the sample. This restriction removes workers with too thin a track record for meaningful analysis, as well as those not directly engaged in the sales process. Observations are weighted by the number of months contributing to the rolling average, so that workers with more complete histories contribute proportionally to the estimates.

The promotion outcome is a binary indicator for whether a worker was promoted into a managerial role at any point during the month following the focal observation. The month of

538 promotion into a managerial role is identified as the first month in which the focal worker was
 539 assigned one or more subordinates. I estimate variants of the following specification:

$$Promote_{ift+1} = \beta Sales_{ift} + \gamma Collaboration_{ift} + \delta X_{ift} + \varepsilon_{ift}.$$

540 Where $Promote_{ift+1}$ is a dummy variable equal to one if individual i at firm f is promoted in
 541 month $t + 1$, $Sales_{ift}$ and $Collaboration_{ift}$ are the worker's pre-promotion sales and collaboration
 542 measures, X_{ift} is a vector of other covariates, and ε_{ift} is the error term. All independent variables
 543 are twelve-month rolling averages of the worker's behavior and productivity described above. I
 544 first estimate the relationship between promotion and collaboration measured as a single aggregate
 545 construct, consistent with how prior research has treated collaborative behavior. I then decompose
 546 collaboration into its two components, organizer and contributor collaboration, to test whether these
 547 behaviors carry distinct signals. Across specifications I progressively introduce additional controls,
 548 and standard errors are clustered at the firm level throughout.

549 **Predicting Managerial Performance**

550 The promotion analysis identifies which workers are selected into management. The second
 551 analysis, which constitutes my main contribution to the literature, asks a distinct question: conditional
 552 on being promoted during the observation window, are a worker's pre-promotion behaviors correlated
 553 with their effectiveness as a manager? Answering this question requires both a measure of managerial
 554 performance and a sample of promoted workers for whom that measure can be calculated.

555 *Constructing managerial performance.* A manager's primary responsibility is enabling
 556 their subordinates to perform well. A natural measure of managerial performance is therefore
 557 the boost a manager provides to subordinate productivity. The central challenge in estimating
 558 managerial performance from observational data is separating a manager's contribution to subordinate
 559 productivity from the contributions of the subordinates themselves and from unobserved firm-time
 560 conditions. Following prior research, I estimate managerial performance as a manager fixed effect
 561 from a regression of subordinate monthly sales outcomes on a set of controls and fixed effects

(Benson et al., 2019; Hoffman and Tadelis, 2021; Lazear et al., 2016). The estimating equation is:

$$Sales_{imft} = \delta_m + \alpha_i + \gamma_{it} + \lambda_{ft} + \varepsilon_{imft}.$$

Where $Sales_{imft}$ is the number of owner sales won by individual contributor i working under manager m at firm f in month t . The term δ_m is the manager fixed effect, which I extract as the measure of managerial performance. The individual contributor fixed effect α_i controls for time-invariant worker characteristics, including innate ability. The tenure fixed effect γ_{it} captures the individual contributor's running tenure, assigned to one of 15 buckets with monthly variation in the first year and yearly variation thereafter. The firm-month fixed effect λ_{ft} absorbs any common shock affecting all workers at a given firm in a given month, including market conditions, firm-wide compensation changes, and seasonal demand patterns. The term ε_{imft} is the error, and standard errors are clustered at the manager level.

This specification identifies δ_m from variation in an individual contributor's sales productivity across the different managers they work under. The demanding nature of this approach constrains the sample of managers for whom a performance measure can be calculated. A manager fixed effect can only be estimated for a manager who supervises at least one subordinate who also worked under at least one other manager during the observation window. Without such a subordinate, there is no within-subordinate variation linking that manager to the rest of the data, and the manager's fixed effect cannot be separately identified from the characteristics of their subordinates. Managers who do not meet this condition therefore drop out of the managerial performance analysis. Of the 10,893 managers originally in the data, a manager fixed effect can be calculated for 9,710.

Sample restrictions. The managerial performance sample is further restricted by the need for managers to have sufficient pre-promotion data to construct the rolling-average independent variables. Workers promoted before the observation window begins, promoted too early within it, or observed for too few pre-promotion months do not have the pre-promotion measures the analysis requires and are dropped. This reduces the sample to 2,678 managers in my primary regression,

586 which remains a very large sample of managers relative to the data used in prior research.

587 *Specification.* Using this sample of promoted workers, I estimate the same series of
588 specifications used in the promotion analysis, replacing the dependent variable with the Manager
589 FE. The structure of the models mirrors the promotion analysis, allowing a direct comparison of
590 which pre-promotion behaviors predict each outcome.

591 **Identification Considerations**

592 The estimates in this paper are correlational. The empirical design does not isolate exogenous
593 variation in pre-promotion collaboration, so the estimated coefficients should not be interpreted as
594 causal effects. I considered an instrumental variable approach but did not find an instrument that
595 was both sufficiently strong and sufficiently defensible. Rather than rely on a weak instrument, I
596 take an abductive approach: I document the empirical relationships, then explore which theoretical
597 mechanisms are most consistent with the patterns observed in the data. This combines additional
598 quantitative analyses, qualitative interviews, and robustness checks to triangulate on the most likely
599 explanation. These supplementary analyses are described in their respective sections following the
600 presentation of the main results.

601 A specific concern worth highlighting is selection into promotion. Because managerial
602 performance is observed only for workers who were promoted, the managerial performance
603 estimates condition on a non-random subset of the workforce. The promotion analysis itself sheds
604 light on which characteristics drive selection into this subsample, allowing the reader to interpret
605 the managerial performance estimates with this selection structure in mind.

606 **Robustness through Specification Curves**

607 To assess whether the main findings depend on specific analytical choices, I construct
608 specification curves for the key coefficients. These curves estimate each main coefficient under
609 every reasonable combination of variable definitions, sample restrictions, control sets, and modeling
610 choices, and display the distribution of resulting estimates. The findings reported in the main

611 results are robust across the full distribution of specifications, indicating that the conclusions are not
612 artifacts of particular choices made during the analysis. The full specification curves are reported in
613 the appendix.

614 **Findings**

615 I first present the results predicting promotion, then turn to the results predicting managerial
616 performance among workers who were promoted. In both analyses I begin with collaboration
617 measured as a single aggregate construct, consistent with prior research, before decomposing it into
618 organizer and contributor collaboration. I then assess the robustness of the central findings using
619 specification curves.

620 **Predicting Promotion**

621 Promotion into management roles entails both selection and attraction (Schneider, 1987).
622 Firms choose whom to offer managerial positions to from among viable candidates; however, these
623 promotions only happen when the selected candidate chooses to accept the offered role. To fully
624 understand the intricacies of these promotional dynamics I would need to observe all promotional
625 offers extended by firms and their eventual results. Such details are incredibly difficult to obtain and
626 are unfortunately absent from my data. What I can observe are successful promotions, events in
627 which firms and employees agree on promotional decisions. My findings on promotion should be
628 interpreted with this in mind; coefficients are not representative of firm desires, but rather of the
629 degree to which firms and managerial candidates can agree on promotions.

630 Table 2 presents the results predicting whether a worker is promoted into a managerial role in
631 the following month. Model 1 mirrors the approach taken in prior research, treating collaboration as
632 a single construct. Consistent with that work, collaboration is a positive and significant predictor
633 of promotion; however, deviating from past findings, I show that individual sales performance is
634 negatively associated with promotion (Benson et al., 2019). A one standard deviation increase
635 in sales won as part of a collaboration is associated with a 17.7% increase in the likelihood of

636 promotion the following month ($p < 0.01$), while a one standard deviation increase in all sales is
637 associated with a 17% decrease ($p < 0.01$). On its face, this suggests that firms reward collaborative
638 workers and, surprisingly, are either less likely or less able to promote their star salespeople.

639 [Insert Table 2 here]

640 Model 2 introduces the central distinction of this paper by decomposing collaboration into its
641 organizer and contributor components. The aggregate result conceals a sharp asymmetry. Contributor
642 collaboration is a strong and significant positive predictor of promotion, while organizer collaboration
643 is statistically indistinguishable from zero. The positive association between collaboration and
644 promotion documented in prior work is, in this setting, driven almost entirely by contributor
645 collaboration. Here a one standard deviation increase in contributor sales won correlates with a
646 19.4% increase in the likelihood of promotion the following month ($p < 0.01$). When general
647 sales ability is further decomposed into lone wolf sales won, which isolates sales a worker closed
648 without any collaborative involvement, its coefficient remains negative and significant, indicating
649 that workers who succeed purely on their own are less likely to be promoted.

650 Models 3 and 4 progressively add controls for task behaviors, gaming behaviors, sales success
651 rate, and team characteristics. All the noted results hold throughout each model. Contributor
652 collaboration remains a significant positive predictor of promotion across every specification, while
653 organizer collaboration remains insignificant and changes sign across models, never approaching
654 conventional thresholds. This contrast is the first indication that organizer and contributor collabora-
655 tion, though superficially similar, carry very different information about a worker. Additionally, lone
656 wolf sales consistently predict a significant decrease in the likelihood of movement into managerial
657 roles.

658 **Predicting Managerial Performance**

Now that I have established stable relationships between sales productivity, collaborative behaviors, and promotion into management positions, I turn to the main findings. While promotion results describe which workers are actually promoted into management, the more consequential question is whether these pre-promotion measures are correlated with how effective a worker turns out to be as a manager. Table 3 presents the results, mirroring the specifications from the promotion analysis, but swapping in the manager fixed-effect as the dependent variable on the sample of workers promoted during the observation window.

666 [Insert Table 3 here]

Column 1 shows that, as in prior research, when all collaborative behaviors are considered equal, those who collaborate more before being promoted tend to make better managers (Benson et al., 2019). However, separating collaborative behaviors into organizers and contributors reveals exactly why it is crucial to do so. Columns 2–3 reveal organizing collaboration as an inconsistent signal of managerial potential, its coefficient varies drastically depending on the specifications chosen. At its best in column 2 it appears marginally significant with less than half the magnitude of contributor collaboration. But magnitude is largely reduced across column 3 and even becomes negative in column 4 with significance essentially obliterated in each of these models.

The results on contributor collaboration provide a stark contrast to organizers. Findings are significant across all models with a stable coefficient hovering between 0.3–0.35. Workers who were frequently invited onto others’ deals before promotion go on to manage teams that close meaningfully more deals than those led by the average manager. To put this in perspective, a one standard deviation increase in the amount of contributor collaboration exhibited prior to being promoted correlates with an average increase of 0.3–0.35 sales won per subordinate per month

681 after promotion. Simply put, this translates to boosts in subordinate productivity ranging between
682 13%–15%, which becomes incredibly material when applied across multiple salespersons over time.
683 These findings and the results from contributor promotion validate one another, showing that firms
684 have good reason for prioritizing collaboration contributors when selecting whom to promote.

685 Lastly, the results also have something interesting to say about individual sales ability.
686 Unlike my findings on organizer and contributor collaborative behaviors, which convincingly link
687 promotional decisions with expected performance, findings on lone wolf sales appear to reveal a
688 dramatic disconnect between who firms should prefer to promote and who becomes a manager.
689 This inversion is one of the most notable findings in the data. A thorough understanding of the
690 sales context is required to make sense of the puzzle. Specifically, there are two strong reasons to
691 expect this divide to exist, both have been discussed in detail above. Great sales producers eligible
692 for managerial roles would likely be forced to take a pay cut alongside increased responsibilities
693 if they were to accept the position. Therefore, within this context or others where workers are
694 paid for performance, the star producers may actually be the least likely to accept a promotion
695 into management. Additionally, although these workers may perform better as managers, it is
696 unclear whether the boost they provide to subordinates is enough to overcome the loss of their own
697 productivity. I explore this question further in the next section on mechanisms below.

698 **Robustness**

699 A natural concern with any analysis involving many possible control variables is that the
700 reported specifications might be cherry-picked for the most favorable results, in other words
701 p-hacking. The four models in Tables 2 and 3 were specified on theoretical grounds and carefully
702 thought through, each control was included because the conceptual framework or the institutional
703 setting gave reason to expect it would matter, not because it produced a desired result. To demonstrate
704 that the central findings do not depend on these particular choices, I estimate specification curves
705 that re-estimate the key coefficients under every combination of the available controls.

706 Figure 1 presents the specification curve for contributor collaboration predicting managerial

707 performance. The estimate is positive and similar in magnitude across all of the more than 500
708 specifications considered. Even when looking at the least favorable specification I find a coefficient
709 very close to the most favorable. Regardless of the specification used, the estimate remains consistent
710 and positive throughout. This stability indicates that the contributor finding is not an artifact of
711 a particular set of controls, rather, the relationship is robust to the full range of analytical control
712 choices a researcher could make. This constitutes strong evidence that contributor collaboration is
713 capturing something real.

714 [**Insert Figure 1 here**]

715 I construct similar specification curves for organizer collaboration and for individual sales
716 ability, across both the promotion and managerial performance outcomes. These are reported in the
717 appendix. The organizer collaboration curves reinforce the impression left by the regression tables:
718 the estimates are volatile and shift in sign and magnitude depending on which controls are included,
719 consistent with a behavior that does not carry a stable signal. The contrast between the tightly
720 clustered contributor curve and the unstable organizer curve, produced by applying an identical
721 procedure to both, is strong evidence that the asymmetry documented in the main tables reflects a
722 genuine difference between the two behaviors rather than a feature of any single specification.

723 **Summary and the Road Ahead**

724 Taken together, the results establish a consistent empirical pattern. Being repeatedly invited to
725 collaborate on others' deals predicts both promotion and, more importantly, managerial effectiveness.
726 Organizing one's own collaborative deals predicts neither once it is separated from contributor
727 collaboration. And strong individual sales ability, while positively related to managerial performance,
728 is negatively related to the likelihood of promotion.

729 These findings raise two questions that the remainder of the paper addresses. First, why
730 does contributor collaboration predict managerial performance? While the relationship is robust,
731 correlational findings alone cannot tell us what underlying characteristics are revealed through
732 contributor collaboration that also enhance managerial performance. Second, why are strong
733 individual sellers, who appear to make better managers, the least likely to be promoted? In the next
734 section I take an abductive approach to both questions, drawing on additional quantitative analyses
735 and a series of semi-structured interviews with sales professionals at all levels to illuminate the
736 mechanisms behind the patterns documented here.

737 **Why Contributors Make Better Managers**

738 The findings establish a robust empirical pattern: workers who are repeatedly invited to
739 contribute to peers' deals go on to become more effective managers, while workers who organize
740 their own collaborative deals do not. This section investigates why. Because the empirical design is
741 correlational, I do not claim to have identified a causal effect. Instead I take an abductive approach,
742 first using additional analysis to adjudicate between two competing explanations for the contributor
743 result, and then using semi-structured interviews with sales professionals to surface the specific
744 worker attributes that plausibly underlie it. I connect these attributes to established research on the
745 determinants of managerial effectiveness to build a theoretically grounded account of the mechanism.

746 **Ruling Out a Pure Practice Effect**

747 A natural alternative explanation for the contributor result is that collaboration functions as
748 practice for a managerial role. A worker who is repeatedly invited onto others' deals gains repeated,
749 low-stakes exposure to the work of supporting and coordinating with colleagues. Perhaps this
750 experience, rather than any durable underlying quality, is what makes contributors better managers.
751 If so, contributor collaboration would not be revealing managerial potential; it would be building
752 managerial skill through rehearsal.

753 This alternative has a clear and testable implication. If the contributor advantage reflects

754 accumulated practice, it should be largest immediately after promotion, when the practiced contributor
755 enjoys a head start, and should erode over time as comparison managers accumulate their own
756 on-the-job experience and close the gap. If instead contributor collaboration reveals a durable
757 worker type, the advantage should persist regardless of when managerial performance is measured.

758 To distinguish these possibilities, I reconstruct the managerial performance measure using
759 four different windows of post-promotion data: the first six months after promotion, the first year,
760 the entire observation period, and the entire period excluding the first year. A pure practice effect
761 predicts a coefficient that is large in the earliest window and declines toward zero as the window
762 moves away from the date of promotion. A type-revealing mechanism predicts a coefficient that
763 remains stable even when managerial performance is measured long after promotions occur.

764 The results, presented in Figure 2, are consistent with both mechanisms operating but rule out
765 practice as the sole explanation. The contributor coefficient declines modestly as the measurement
766 window extends, indicating that some portion of the advantage reflects an early head start. Yet it
767 remains large and statistically significant even when the entire first year after promotion is excluded,
768 a window over which any head start from pre-promotion practice would have been substantially
769 eroded by comparison managers' own experience. This persistence, well beyond the period in which
770 practice could plausibly account for it, indicates that contributor collaboration reveals something
771 durable about the worker rather than a short-term performance advantage. The distinction matters
772 because a measure capturing only short-term advantages would miss the aspect of promotion
773 decisions firms care most about, sustainable, long-term performance gains.

774 [**Insert Figure 2 here**]

775 This interpretation aligns with what senior leaders described in interviews. Managerial skill
776 takes considerable time to develop. As one sales director reflected, many leaders are ineffective
777 when they first take the role and do not develop the skill for some time, suggesting that a contributor

778 advantage observed years into a tenure is unlikely to be an artifact of early coaching. Having
779 established that contributor collaboration reveals a durable worker type rather than simply conferring
780 practice, the question becomes what that type consists of.

781 **What Peers Screen For: Evidence from Interviews**

782 To understand why peer invitations carry information about managerial potential, I conducted
783 semi-structured interviews with sales professionals across multiple firms and levels, including
784 individual contributors, frontline managers, regional managers, and chief revenue officers, both
785 within and outside the firms represented in the data. The interviews explored how collaboration
786 arises, why workers invite particular peers onto their deals, and what attributes distinguish those
787 who are repeatedly sought out. A consistent picture emerged: invitations to collaborate are
788 strategically extended to peers who possess attributes that are expected to enhance sales results.
789 Additionally, many of these attributes map closely onto the attributes that research has linked to
790 effective management.

791 When workers decide whom to invite onto a deal, they are putting their own commission
792 and their client relationship at risk, so they choose carefully. One sales manager described how
793 collaboration pairings are made on the basis of who can genuinely improve the odds on a complex
794 opportunity, and noted that the workers themselves reliably know who to call on for support. A
795 chief revenue officer with decades of experience in sales explained the criterion for collaboration
796 invitations as follows:

797 *It's a signal of someone's expertise, it's a signal like I'm only going to try and work*
798 *with you if I think you're good at something that I'm not, if I think you're easy to*
799 *work with, if I think you're not going to screw me, if I think my client will respect you.*

800 This selectivity is the foundation of the signal. A worker who is repeatedly chosen has been
801 repeatedly judged, by peers with money on the line, to add real value. Several attributes recurred
802 across interviews as the basis for that judgment, which I group below into the constructs they
803 most closely represent. While my interviewees often described these attributes as direct drivers
804 of managerial performance, the link between each one and future managerial success is also well

805 established in existing research.

806 *Interpersonal and social skill.* The attribute interviewees returned to most often was the
807 ability to work well with others. This capacity is more than just a pleasant trait; those I interviewed
808 expected it to have a positive impact on both the size of a sale and its probability of success.
809 These expectations are supported by recent research which shows that social skills improve group
810 performance to a degree comparable with cognitive ability, raising a team's output beyond what its
811 members' individual skills would predict (Weidmann and Deming, 2021). Additionally, workers with
812 proven interpersonal track records have been able to capture growing wage premiums in recent years,
813 suggesting that firms increasingly recognize social skill as a driver of team performance (Deming,
814 2017). These skills matter for promotion because a manager's core function is coordination. The
815 same capacity that makes a worker a valued collaborator is the one the managerial role most directly
816 demands, and managers who possess strong people-management skills retain their employees longer
817 and are rewarded accordingly (Hoffman and Tadelis, 2021).

818 *Prosocial and helping orientation.* Many interviewees emphasized a genuine willingness
819 to support teammates as a reason for inviting someone, and several leaders described their own
820 move into management as having grown out of a discovered satisfaction in helping others succeed.
821 One regional manager recounted that he began contributing to many collaborations and found that
822 he genuinely enjoyed coaching and developing his teammates. He expressed that watching them
823 succeed gave him more pride than his own individual accomplishments had, greatly influencing
824 his choice to move into management. Interviewees were also quick to point out that, although
825 successful contributors are rewarded with a share of the commission, the split rarely justifies the
826 time it pulls away from one's own pipeline, so a purely self-interested worker would almost never
827 accept an invitation to contribute. Those who readily do so therefore reveal a genuine orientation
828 toward helping. Interviewees observed, too, that many prosocial workers tend to work harder on a
829 colleague's behalf than they would work for themselves alone, a pattern consistent with research
830 showing that prosocial motivation leads people to invest more time and energy in their work and to
831 persist longer at it (Grant, 2008). This kind of helping is exactly the disposition that lines up most

832 naturally with what good managers actually do. Teams where people regularly help one another tend
833 to be more productive and efficient, with more satisfied customers, and the motivation to benefit
834 others is central to how the best leaders develop the people under them (Grant, 2007; Podsakoff
835 et al., 2009). A worker who instinctively takes on the costs of coordinating with others and invests in
836 their success is already doing, as an individual contributor, what defines a developmental manager.

837 *Trustworthiness.* Interviewees consistently described inviting people they trusted, both to
838 handle the client well and to deal fairly over shared credit and commission. Trust matters here
839 because it has been shown to be important for how well a manager performs. A manager cannot do
840 all of a team's work alone; they must assign important tasks to other people and trust them to follow
841 through, and they must rely on subordinates to give them honest information, including the bad news
842 subordinates may be tempted to hide. Both delegation and candor are easier to come by when trust
843 is present, which is why a worker whom peers trust enough to bring into their most valuable deals
844 has shown a quality that supports effective management. The link is well established: perceived
845 ability, benevolence, and integrity are the recognized foundations of trust, and trust in a leader is in
846 turn associated with stronger subordinate performance, citizenship behavior, and satisfaction (Dirks
847 and Ferrin, 2002; Mayer et al., 1995). What makes the peer invitation especially informative is that
848 peer trust is built through close, daily interaction that management rarely witnesses directly. One
849 regional manager illustrated this in recalling that a colleague had once confided something deeply
850 personal to him while the two were peers, only for that colleague to later become his subordinate.
851 That trust had been earned privately, as equals, in a space the formal hierarchy never saw, and it
852 carried forward into the working relationship that followed. Because peers observe one another at
853 this close range, the trust they extend reflects information about a worker's character that the firm
854 cannot obtain from its own vantage point. A worker repeatedly trusted by peers is therefore showing
855 the firm secondhand evidence of a quality that has been linked to effective management.

856 *Network ties and social capital.* Interviewees repeatedly noted that sales workers may invite
857 peers to collaborate when those peers have existing relationships with the client or outside sources of
858 information that may influence the success of the sale. These connections can translate directly into

859 better outcomes: a peer who already knows the client can secure a warmer introduction and surface
860 the buyer's real priorities, while a peer with the right external contacts can supply useful intelligence
861 on the client, the competition, or anything else that sharpens the team's value proposition. The
862 value of such a network need not end with a single deal. A worker who brokers connections for
863 their peers may, once promoted, become the kind of boundary-spanning manager who mobilizes
864 resources and information on behalf of an entire team. Research on structural holes shows that those
865 who bridge otherwise disconnected groups enjoy superior access to non-redundant information and
866 are disproportionately sources of valuable ideas, building on the foundational insight that weak
867 ties carry novel information (Burt, 2004; Granovetter, 1973). This brokerage capacity appears to
868 matter once a worker reaches management, as teams whose leaders are central in their intergroup
869 networks tend to perform better (Balkundi and Harrison, 2006). A worker repeatedly relied upon for
870 the strength of their network has therefore demonstrated the same capacity that a manager uses to
871 supply a team with outside resources and to clear the obstacles that stall its work.

872 *Domain expertise.* A final reason peers were invited to collaborate revolves around competence
873 at the core work itself, which interviewees described in two related but distinct forms. The first is the
874 ability to close deals, which I control for in my analysis above and which firms can observe directly;
875 therefore it is not an attribute of worker type revealed through contributor collaboration. The second
876 is expertise, a bundle consisting of strong familiarity with the product, the firm's sales process and
877 methods, how complex deals are structured, and the mechanics of navigating multi-stakeholder
878 negotiations. Unlike individual sales ability, expertise cannot be fully captured through firms'
879 existing metrics; thus the signal from contributor collaboration becomes correspondingly more
880 valuable in its case. Expertise may enhance managerial performance through several paths. It allows
881 a manager to coach credibly and evaluate work accurately, teaching skills that persist and raising
882 subordinate productivity (Lazear et al., 2015). It can also improve coordination between supervisor
883 and worker, resulting in higher subordinate job satisfaction (Artz et al., 2017).

884 Across these constructs runs a strong throughline: nearly every attribute that earns a worker
885 invitations into peer collaborations is valued because it can be used to reduce coordination costs or

886 enhance the output of others. This is precisely what management is, since a manager's output is
887 the output of their team. Peer invitations, then, function as an informal screening process. Peers,
888 drawing on private information that the firm's performance metrics never capture, repeatedly sort
889 toward exactly the attributes that predict managerial success. A worker who accumulates many
890 invitations from many independent peers has effectively been pre-screened on managerial potential
891 before the firm's own promotion criteria ever evaluate them.

892 This type-revealing interpretation was independently articulated by a chief revenue officer I
893 interviewed who, when presented with the structure of the study, correctly anticipated which form
894 of collaboration would predict managerial performance and which would not. He reasoned that the
895 relevant behaviors were correlated with an underlying worker type rather than causally producing
896 managerial skill, echoing the logic developed above. One limitation of that logic should be stated
897 plainly. The mapping I have drawn proceeds attribute by attribute, with each construct linked to
898 managerial performance through established research, yet my data do not reveal which attribute
899 drives any particular invitation. Disentangling them, however, is not necessary for my argument,
900 because the front-line workers are the ones performing the aggregation. Each invitation embodies a
901 holistic judgment that a worker is worth the cost of bringing onto a deal, and the accumulation of
902 invitations across many independent peers becomes an observable proxy for the latent bundle of
903 relational attributes those judgments collectively track. What the firm cannot assess attribute by
904 attribute, a worker's propensity for contributor collaboration effectively summarizes.

905 **The Cost of Promoting Strong Sellers**

906 The findings revealed a second pattern worth examining in its own right. Strong individual
907 sales ability is positively associated with managerial performance but negatively associated with
908 the probability of promotion. Workers who excel at selling on their own would, on average, make
909 better managers, yet they are among the least likely to move into management. My interviews
910 offered a direct explanation: star individual contributors repeatedly cited compensation, autonomy,
911 and control over their own results as reasons they did not want a managerial role. These reasons

912 fall into two categories that differ in how readily a firm can act on them. The first comprises
913 taste-based features of the job, such as autonomy and control. These are valued differently by
914 different workers and are difficult for a firm to reshape; a firm cannot easily make management feel
915 more like individual contribution to a worker who prefers the latter. The second is pay, which differs
916 on both counts: the preference for higher pay is close to universal, and unlike the intrinsic features
917 of a role, compensation is something a firm can readily adjust. In principle, then, pay is the one
918 lever firms have to entice their strongest sellers into management.

919 And pay was, in fact, the dominant reason cited in my interviews for refusing managerial roles.
920 The quotes below illustrate how heavily this pay gap weighs on the decision, and how it keeps a
921 population of otherwise qualified workers, though not all, from moving into management:

922 *People often make less as a front-line manager than they did as an individual*
923 *contributor. On the financial side. The grass isn't greener as a sales director versus*
924 *an AE (Account executive).*

925 *The score card is how much you earn and whether you are materialistic or not that's*
926 *how you keep score. And a good salesperson typically makes 25–100% more than*
927 *their boss.*

928 *When talking with my wife one day . . . she looked at me and said, "let me get this*
929 *straight, you are going to go from managing one idiot where you make a lot of money,*
930 *you're an assistant coach for our son's little league team, you go to our daughter's*
931 *soccer games . . . blah blah blah, you know all these positives. You're going to go*
932 *from that to managing ten idiots and you're going to make less money!?" And I went,*
933 *"yeah that surmises it pretty well."*

934 My interviews revealed not only the strong influence of this pay differential on the decision to
935 accept promotion, but also that management is well aware of the effect. An obvious response
936 would be to raise managers' base pay, or at least open a viable path to earnings comparable to their
937 individual-contributor reference points, perhaps through bonuses tied to team quotas. That firms
938 are not pursuing this solution suggests they may have their own reasons for keeping star producers
939 where they are.

940 To investigate this possibility, I estimate the net effect on team sales of promoting an individual
941 contributor at each decile of individual sales. Deciles are constructed by comparing each worker's

individual, or “lone wolf,” sales over the prior 12 months against those of all peers reporting to the same manager, so that the strongest sellers fall in decile 10 and the weakest in decile 1. The full calculation is detailed in the online appendix; in brief, the estimate takes the following form:

$$\Delta Sales_i = (me_i \times s_i) + \bar{q} - q_i.$$

Where $\Delta Sales_i$ represents the estimated change in a team’s monthly sales productivity after promoting team member i . When worker i is promoted out of an individual-contributor role, the firm loses their personal production ($-q_i$) but gains two things. First, their managerial effect applied across everyone they now supervise ($me_i \times s_i$). Second, their vacated seat is refilled by an average worker who produces $\bar{q}$. The net change is therefore the managerial value created plus the replacement’s output, minus what the promoted worker used to generate alone. A positive value means the promotion produces more total sales than it costs; a negative value means the worker was worth more to the firm as an individual contributor than as a manager.

Notably, as shown in Figure 3, the majority of promotions create positive value. This value turns negative at decile 9 and drops off sharply at decile 10, indicating that whatever managerial benefit comes from promoting a star salesperson is overwhelmed by the loss of their individual contribution to team sales. This pattern offers a rational explanation for the puzzle raised above. If promoting top sellers destroys net value, then keeping them in individual-contributor roles is value-maximizing for the firm, and the failure to raise managerial pay enough to attract them need not reflect an oversight; firms may simply have little incentive to lure their best producers into a role where they would be worth less. Seen this way, star salespeople can be held back from management by a combination of two factors: their own preference for individual contribution, and a compensation structure that, whether by design or not, weighs most heavily on precisely the workers whose promotion would cost firms the most.

[Insert Figure 3 here]

965 Even so, a small subset of these workers do move into managerial roles. My interviews point
966 to several possible motives for this choice, each strong enough, for some workers, to overcome the
967 pay cut:

968 *Sometimes the only warm fuzzies we get from a job come from being a good leader,*
969 *being that person that maybe you didn't have as a team member or replicating that*
970 *good leader you had as a team member.*

971 *I wanted a seat at the table, I thought I was more than just someone, you know,*
972 *following other's direction. I had an ego, I thought I could do more.*

973 *I lost the excitement. I got I kind of got bored of that same cycle over and over and*
974 *over again.*

975 Although it is not the focus of this paper, these patterns suggest that promotion into management is
976 a more complex phenomenon than academics often recognize. Focusing solely on identifying the
977 front-line employee with the most managerial potential ignores two possibilities: that the firm may
978 have good reasons to hold that employee back, and that the employee may have no desire to lead.
979 The best promotional candidate is of little use if the candidate will not accept the role. Deepening
980 our understanding of these complexities carries real-world implications that extend well beyond
981 sales. I discuss them further, and call for additional research, in the discussion section below.

982 One further point about the team-productivity estimates is worth addressing. They reveal a
983 positive and significant effect for promoting individual contributors with the worst sales records, not
984 meaningfully different from the estimates for mid-tier sellers. This may prompt the question: why
985 not promote the lowest-decile workers, retaining the more valuable sellers where they can continue
986 to produce? Recall that I have already shown sales ability to be positively related to managerial
987 performance. The positive estimate here is not driven by superior managerial performance but by
988 replacing a poor salesperson with an average one. The appropriate inference is therefore not that
989 firms should promote their weakest sellers, but that those workers are candidates for replacement
990 rather than promotion. The workers for whom promotion most improves total output are those in the

991 middle of the distribution, whose individual production is modest enough to replace at low cost but
992 whose managerial potential, where present, can still lift an entire team.

993 Taken together, these results sharpen the practical stakes of the paper's central finding. The
994 right promotional decision is not merely a matter of predicting who will succeed in the role. It also
995 requires recognizing that the workers a firm is most tempted to promote on the basis of individual
996 performance are sometimes the ones whose promotion is least beneficial, and that the workers whose
997 promotion would most benefit the firm must first be willing to take the plunge.

998 **Limitations and Discussion**

999 The question of who should be promoted into management is old and consequential. But the
1000 majority of extant literature has approached it from a narrow angle, inferring managerial potential
1001 largely from the characteristics of people who are already managers, often using self-reported or
1002 otherwise gameable measures. This paper takes a different route. It asks whether managerial
1003 potential can be read from incentive-compatible behaviors that workers exhibit before they ever hold
1004 a managerial title, and it pursues that question with a large, novel dataset detailed enough to observe
1005 those behaviors directly. Prior work has established that collaboration predicts managerial success.
1006 I verify this finding and then push beyond it to ask a question prior work has not: if collaboration
1007 carries a signal, which kind of collaboration are we actually reading? The answer turns out to matter
1008 enormously. Being repeatedly invited to contribute to peers' deals is a strong and durable signal of
1009 managerial potential, while organizing collaboration, the behavior that most resembles managerial
1010 work on its surface, carries almost no signal at all.

1011 That null result for organizers is itself worth dwelling on, because the theoretical case for
1012 the opposite is strong. Initiating collaboration requires recognizing when a deal needs additional
1013 resources, identifying who can provide them, and coordinating their efforts toward a shared goal,
1014 all of which closely resemble the work of management (Mintzberg, 1998; Sirmon et al., 2011).
1015 My interviews confirmed that the dominant reason workers organize collaboration is precisely to
1016 assemble complementarities, to bring in a colleague whose skills or relationships raise the odds of

1017 winning a deal. Spotting an opportunity and assembling the right people to pursue it is exactly what
1018 prior research, drawing largely on other settings, treats as a marker of managerial and entrepreneurial
1019 aptitude (Shane and Venkataraman, 2000; Sirmon et al., 2011). And yet here it predicts nothing
1020 about managerial performance. This is more than an absence of evidence; it is evidence that a link
1021 documented in other contexts does not hold universally. One plausible reading is that the capacity
1022 to assemble complementary talent on a single deal simply matters less in this managerial setting
1023 than the relational attributes a contributor reveals, or that the skills of orchestrating an occasional
1024 collaboration do not transfer to the sustained work of elevating an entire team. Whatever the reason,
1025 the result is a caution against assuming that behaviors that look managerial are managerial.

1026 The contributor finding, by contrast, points to a broader methodological lesson. Voluntary
1027 peer interactions encode information that firms cannot easily obtain through their own observation.
1028 Management sits structurally outside the daily, close-range interactions through which workers
1029 come to know one another's reliability, skill, and character, and workers have well-documented
1030 incentives to manage the impression they present upward (Bolino et al., 2008; Roy, 1952; Wayne and
1031 Liden, 1995). Peer choices, made under real stakes, reveal what hierarchical observation conceals.
1032 The contributor signal works precisely because it aggregates many independent peer judgments
1033 into a record the firm can observe but a worker cannot fabricate. Firms that learn to read these
1034 decentralized signals gain access to a layer of information about their own workforce that formal
1035 evaluation systems systematically miss.

1036 That such a signal can be recovered at all is, in another sense, a story about putting data to
1037 work. Increasingly granular behavioral data is becoming available to firms, often as the exhaust of
1038 systems adopted for unrelated operational purposes, yet much of it goes unexamined because firms
1039 have not developed uses for it. The present analysis is one demonstration of what becomes possible
1040 when such data is taken seriously. The collaboration signals I exploit were never designed to be
1041 measured, they are constructed from the byproduct of ordinary CRM activity. That a variable this
1042 consequential for promotion decisions sits latent in data many firms already possess suggests that
1043 the gap between the information firms hold and the information they use remains wide, and that

1044 academics and practitioners alike have much to gain from closing it.

1045 A separate insight from the interviews deserves mention, even though it falls outside what
1046 my data can test. Contributor collaboration may operate through a second channel distinct from
1047 the worker-type mechanism I develop: peer esteem, or whether a worker is well regarded by the
1048 colleagues who would become their subordinates. Peer esteem need not make a worker a better
1049 manager, but it may make their transition into management smoother by reducing the friction that
1050 arises when a former peer begins to lead. One senior leader I interviewed pointed to exactly this
1051 dynamic, noting that a worker's standing among peers shapes how readily a team accepts them as
1052 a boss. If decision makers weigh anticipated team acceptance when choosing whom to promote,
1053 then contributor collaboration could influence promotion through a channel entirely separate from
1054 managerial aptitude. Disentangling these channels is beyond the reach of my data, but the possibility
1055 that peer esteem shapes internal mobility independent of performance is a promising avenue for
1056 future work.

1057 The paper also frames a set of questions about the promotion decision itself that it cannot
1058 fully resolve, beginning with who actually controls that decision. I have shown that the strongest
1059 individual sellers tend to make better managers yet are less likely to be promoted, and I have offered
1060 a rational explanation grounded in compensation structure and the net cost of removing a star from
1061 production. But this explanation assumes the firm holds the decision, and in practice it does not.
1062 Some star performers will pursue promotion regardless of the pay cut, drawn by ego, boredom, or a
1063 genuine desire to lead, as several interviewees candidly described. A firm that would prefer to keep
1064 such a worker producing may be unable to do so without losing them to a competitor offering the
1065 title they seek. The firm's value-maximizing preference to keep a star in production is therefore not
1066 always within its power to ensure, and the threat of attrition may force promotions the net-sales
1067 calculation alone would advise against.

1068 If one edge of this problem is the worker who insists on a promotion the firm would rather
1069 withhold, the opposite edge is now far more common and arguably more vexing: the worker who
1070 declines a promotion the firm would like to make. Resistance to leadership has grown across

1071 many professional fields, not only in sales. This phenomenon raises a cluster of questions this
1072 paper poses but cannot answer (Bucher et al., 2023; Dyer et al., 2021; Gleeson and Knights, 2008;
1073 Robinson, 2025). When a worker does not want to lead, should a firm try to change their mind, and
1074 at what point does persuasion become a mistake for both sides? What happens to those who accept
1075 reluctantly, or have leadership thrust upon them? Can they step back gracefully if they find the
1076 role isn't for them, and how many instead discover an aptitude they did not know they had? These
1077 questions are hard to study because the necessary data is so difficult to obtain. Actual promotions
1078 are observable, but offers, deliberations, and declined opportunities are not, and firms may withhold
1079 offers they would like to extend simply because they expect rejection, so that even a full record of
1080 offers would understate the set of workers a firm wishes it could promote. Progress will require
1081 creative data collection that reaches into the promotion process itself, likely pairing administrative
1082 records with direct access to how decisions are made inside firms.

1083 Separate from these questions about who controls promotion, a limitation concerns the time
1084 horizon over which I evaluate managers. I measure managerial performance over the years following
1085 promotion, but some promotions may be justified by trajectories that extend well past that window.
1086 A firm might rationally promote a star seller despite short-run costs if it believes that worker can
1087 eventually rise into senior leadership, where their impact would dwarf the near-term loss. My
1088 estimates capture the sales consequences of a promotion that occur within the first few years; they
1089 cannot capture the option value of developing a future executive. The net-cost framework I offer
1090 should therefore be read as a statement about near-term productivity, not as a full accounting of a
1091 promotion's long-run value.

1092 Finally, the interviews revealed something about how effective leaders actually think that
1093 complicates any reading of these results as purely about the firm's interests. Many of the sales leaders
1094 I spoke with had developed explicit leadership philosophies. These philosophies overwhelmingly
1095 centered on the growth of their people, on helping subordinates advance in their careers and their
1096 lives, regardless of whether that advancement ultimately served the firm or even kept them at it.
1097 These are of course self-descriptions, and stated philosophies need not match behavior; but the

1098 striking thing was how uniformly they pointed away from the firm's interests rather than toward
1099 them. These leaders were not optimizing team sales in their daily choices; they were acting on a
1100 conviction about what they owed the people who worked for them. Many believed, almost as an
1101 article of faith, that genuinely serving the individual's interest produced the best outcomes for the
1102 firm in the end. Whether or not that belief is correct, it suggests that the qualities that make a great
1103 manager may be bound up with a disposition that does not consciously aim at the firm's objectives
1104 at all. The relational attributes that peers screen for when they extend invitations may be valuable to
1105 firms precisely because, in the minds of those who hold them, they are not about the firm.

1106 **Conclusion**

1107 This paper distinguishes between two forms of collaborative behavior that prior work has
1108 treated as one and shows that the distinction carries real weight. Within my research context, workers
1109 who are repeatedly invited to contribute to their peers' deals are both more likely to be promoted and,
1110 more importantly, more effective once they become managers. Workers who organize collaborative
1111 deals are neither. Using high-frequency CRM data on nearly 70,000 sales workers across 69 firms, I
1112 show that this contributor advantage is robust to a wide range of analytical choices, persists years
1113 after promotion, and corresponds to a meaningful improvement in the productivity of the teams
1114 these workers come to lead.

1115 The explanation I advance, supported by the pattern across post-promotion windows and by
1116 extensive interviews, is that being chosen by peers reveals a durable bundle of relational attributes,
1117 including interpersonal skill, a prosocial orientation, trustworthiness, useful network ties, and
1118 domain expertise. These attributes are difficult for firms to observe directly but are central to
1119 managing well. Peers, interacting at close range and choosing under real stakes, perform a screening
1120 function that the firm's own metrics cannot replicate. Contributor collaboration is valuable as a
1121 signal precisely because it aggregates these private peer judgments into a record firms can observe.

1122 The paper also documents a tension that complicates the straightforward application of this
1123 signal. The strongest individual producers tend to make better managers but are systematically less

1124 likely to be promoted, both because they often prefer to keep selling and because removing them
1125 from production can cost the firm more than their managerial contribution returns. Identifying
1126 managerial talent, then, is necessary but not sufficient. A firm must also weigh what it forfeits by
1127 promoting a worker, and contend with whether that worker will accept the role at all.

1128 The result is both a practical message and a research agenda. The practical message is that
1129 much of the information firms need to make better promotion decisions already exists within the data
1130 they routinely collect, waiting to be read correctly, and this paper offers a concrete demonstration
1131 of how to read it. The research agenda follows from the questions my findings open up, about
1132 who controls the promotion decision, about the growing resistance to leadership, and about the
1133 long-run trajectories that near-term measures cannot see (Bucher et al., 2023; Gleeson and Knights,
1134 2008; Robinson, 2025). These are large questions, and answering them will demand data and
1135 methods that reach further into the promotion process than any single study can. By identifying
1136 a manipulation-resistant signal of managerial potential hidden in ordinary behavioral data, and
1137 by validating it with both rigorous empirics and the testimony of those who live these decisions,
1138 this paper takes a substantial step toward answering one of the most consequential questions an
1139 organization faces: who should lead.

Table 1: Descriptive Statistics Sales Variables

Variable	Mean	SD	Min	Max	N
Avg Owner Sales Won	2.53	4.60	0	45	69974
Avg. Lone Wolf Sales Won	2.30	4.23	0	42	69974
Avg. Organizer Sales Won	0.19	0.60	0	7	69974
Avg. Contributor Sales Won	0.20	0.69	0	8	69974
Avg. Total Collaboration Sales Won	0.44	1.29	0	14	69974
Win Rate	0.31	0.29	0	1	69974
Avg. Tasks Performed	144.72	335.98	0	2542	69974

Means and standard deviations are reported. N varies due to missing data.

Table 1 gives descriptive statistics on sales outcomes prior to demeaning and standardization.

Table 2: Promotion

	(1)	(2)	(3)	(4)
	Promotion Next Month	Promotion Next Month	Promotion Next Month	Promotion Next Month
Owner Sales Won	-0.0385*** (0.0113)			
Collaborated Sales Won	0.0401*** (0.0124)			
Female	-0.0853*** (0.0164)	-0.0875*** (0.0161)	-0.107*** (0.0189)	-0.112*** (0.0175)
Tenure	0.114*** (0.0116)	0.114*** (0.0116)	0.144*** (0.0245)	0.144*** (0.0245)
Tasks Performed	-0.0648*** (0.00841)	-0.0688*** (0.00896)	-0.0783*** (0.0141)	-0.0738*** (0.0139)
Lonewolf Sales Won		-0.0298*** (0.00839)	-0.0432*** (0.0134)	-0.0519*** (0.0177)
Organizer Sales Won		-0.000601 (0.0131)	0.00236 (0.0141)	0.000934 (0.0145)
Contributor Sales Won		0.0438*** (0.0160)	0.0442** (0.0179)	0.0445** (0.0185)
Notes Percent			0.0288* (0.0169)	0.0442* (0.0231)
Off Hours Percent			0.00591 (0.00891)	0.00604 (0.00922)
High Priority Percent				0.0306 (0.0215)
Win Rate				0.0306 (0.0342)
Sale Participants				0.00636 (0.0182)
Team Size				-0.00122 (0.00106)
Observations	1568791	1568791	877687	830833
Split Collaboration	No	Yes	Yes	Yes
Notes and Sandbagging	No	No	Yes	Yes
Add'l Controls	No	No	No	Yes

Table 3: Manager Performance

	(1)	(2)	(3)	(4)
	Manager Value Added	Manager Value Added	Manager Value Added	Manager Value Added
Owner Sales Won	0.222** (0.0938)			
Collaborated Sales Won	0.289 (0.187)			
Female	-0.158 (0.182)	-0.167 (0.182)	-0.222 (0.260)	-0.208 (0.245)
Tenure	-0.0562 (0.0653)	-0.0524 (0.0656)	0.0299 (0.0821)	0.0438 (0.0860)
Tasks Completed	-0.155 (0.138)	-0.186 (0.145)	0.0228 (0.181)	-0.0289 (0.192)
Lonewolf Sales Won		0.261** (0.104)	0.285*** (0.0827)	0.325*** (0.110)
Organizer Sales Won		0.146* (0.0748)	0.00408 (0.0847)	-0.0156 (0.0870)
Joiner Sales Won		0.303* (0.173)	0.342** (0.133)	0.348** (0.151)
Notes Percent			-0.433*** (0.111)	-0.406*** (0.102)
Task Sandbagging Percent			-0.0117 (0.0923)	-0.0238 (0.0947)
Owner Sale Sandbagging Percent			-0.00614 (0.0533)	0.0752 (0.156)
Off Hours Percent			-0.00484 (0.0828)	-0.0139 (0.0812)
High Priority Percent				-0.0815 (0.0895)
Win Rate				-0.228 (0.159)
Sale Participants				-0.0685 (0.118)
Team Size				0.0134* (0.00695)
Observations	2678	2678	1758	1710
Split Collaboration	No	Yes	Yes	Yes
Notes and Sandbagging	No	No	Yes	Yes
Add'l Controls	No	No	No	Yes

Figure 1: Specification Curve: Contributor Collaboration Predicting Managerial Performance

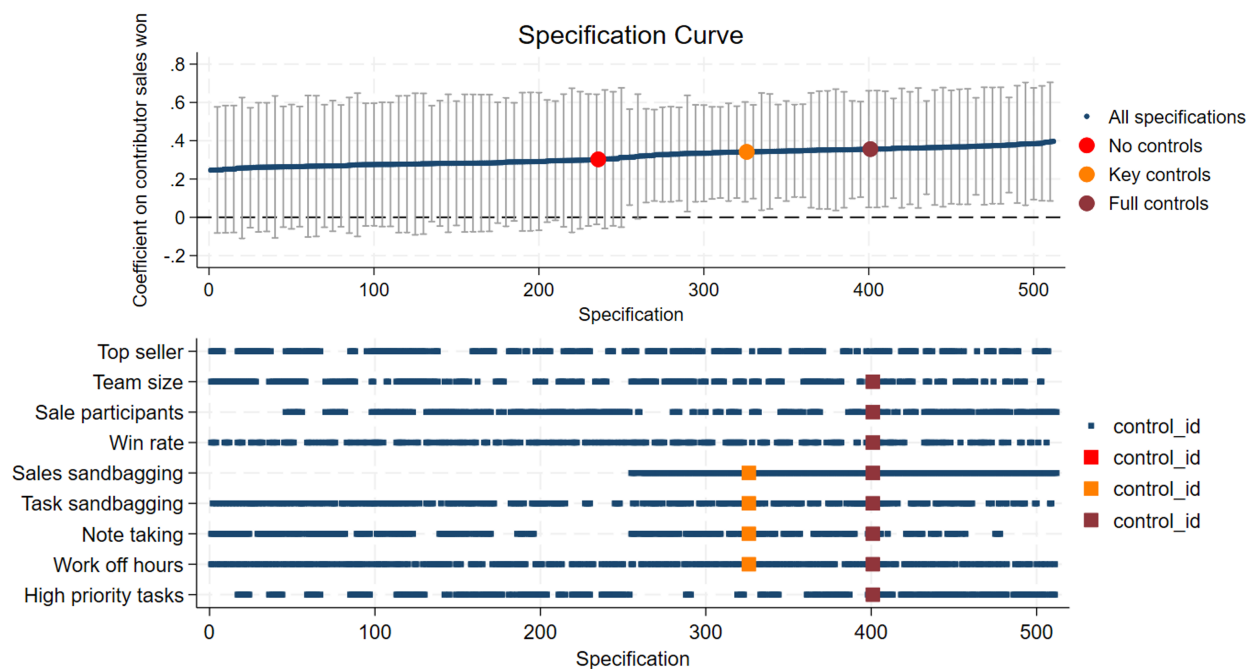


Figure 2: Head Start Test: Contributor Coefficient Across Post-Promotion Windows

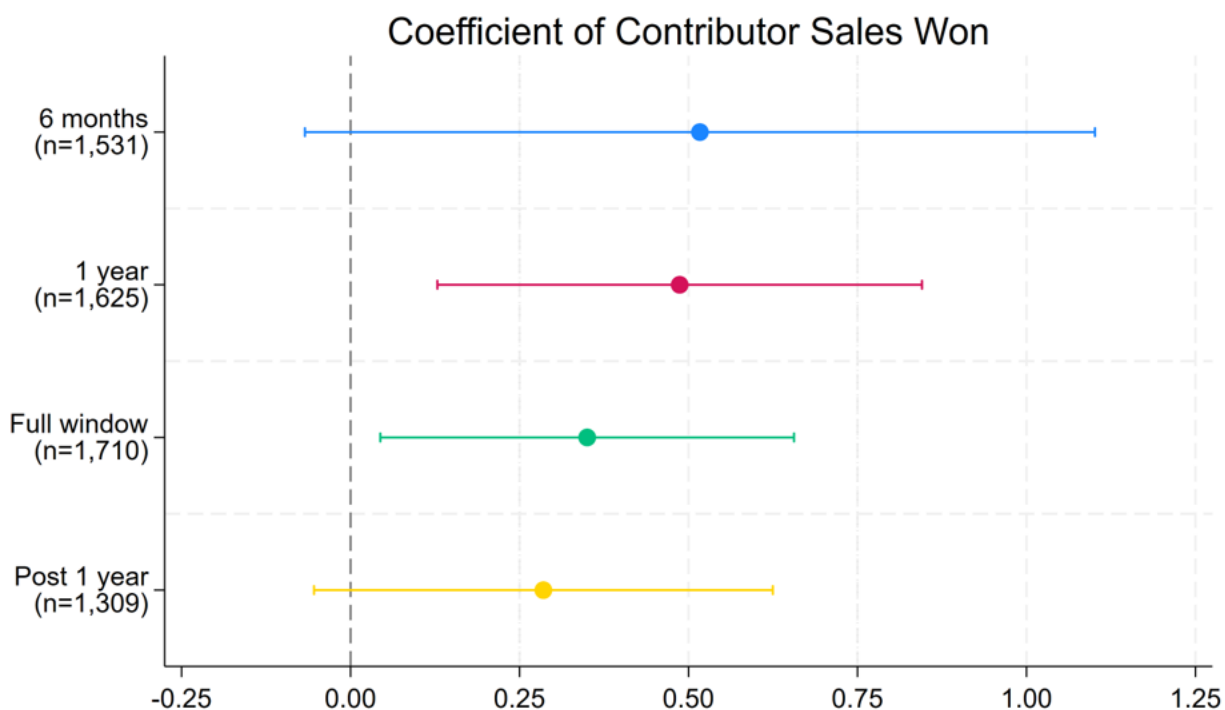
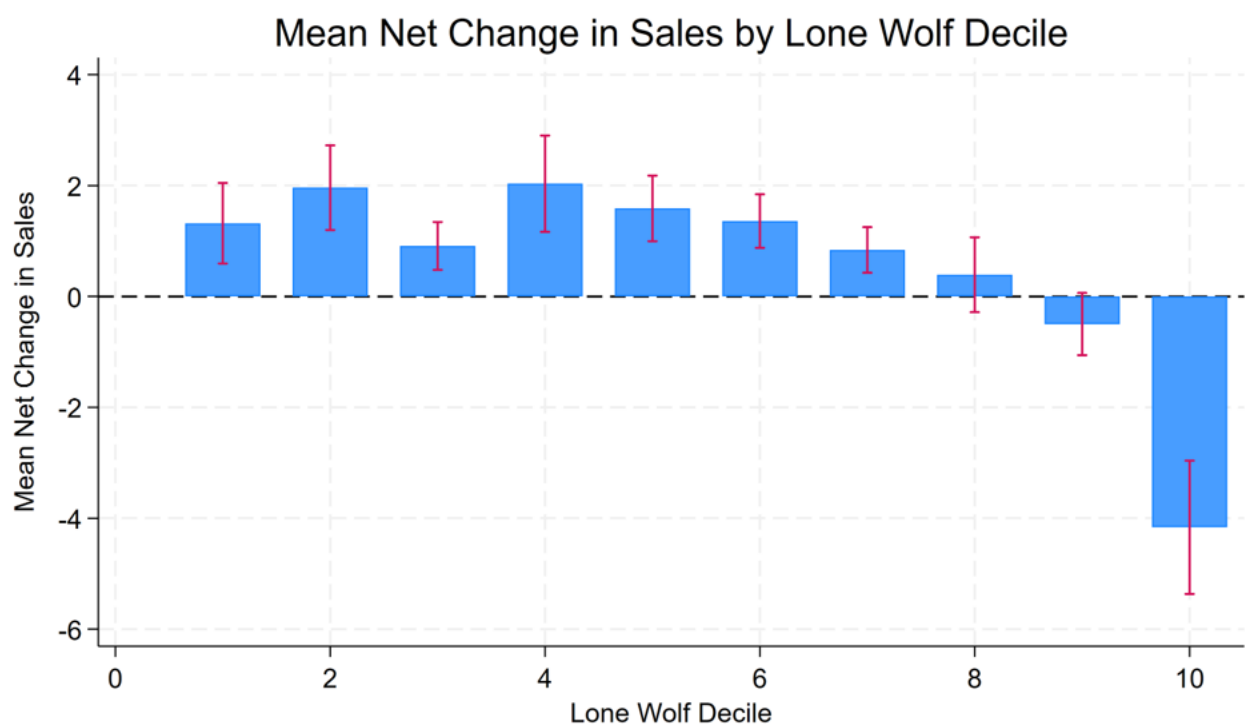


Figure 3: Net Effect on Team Sales of Promoting by Individual Sales Decile



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