In the Midst of Hiring

Pathways of Anticipated and Accidental Job Evolution during Hiring

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Abstract

In this paper, we examine the evolution of jobs in the midst of the hiring process – how jobs change between the decision to bring in someone to do a body of work and hiring someone. We analyze data from interviews, observations, and documents about startup hiring and find that during hiring; tasks are added and removed from jobs; jobs are abandoned, replaced, and moved; and hiring processes are re-launched. We describe two pathways that this evolution takes: The Pathway of Antcipated Evolution, shaped by the unknown nature of the jobs being filled, and the Pathway of Accidental Evolution, shaped by unanticipated factors surrounding jobs. While the pathways lead to many of the same immediate consequences, there are differences in the longer-term consequences. Across the pathways, many jobs continue to evolve. On the Pathway of Anticipated Evolution, many job incumbents leave within a year and are not replaced. On the Pathway of Accidental Evolution, the longer-term consequences for job incumbents, structures, and organizations range from stability in structures and incumbents to ongoing conflict and incumbent departure. Not surprisingly, most evolving jobs are new to their organizations but, contrary to common conceptions, job evolution is not the product of managers who lack experience or use lax hiring practices. Our observations provide evidence of the emergent nature of jobs, hiring, and organizations.

Keywords: Idiosyncratic jobs, job crafting, job design, opportunistic hiring, hiring, entrepreneurship

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Scholars have turned to examining the ongoing evolution of jobs in organizations: how tasks move into and out of jobs; how jobs are created and dissolved; and how jobs move within and across organizational structures. These scholars have rejected the prescriptive top-down job-design models of the past – models that suggest that omniscient managers can and do place tasks into jobs that they then fill with appropriately skilled employees, that tasks precede jobs and that jobs precede those who fill them – and shifted instead to a model where there is no fixed arrival order for tasks, jobs, and job incumbents (e.g., Miner 1987, 1990, Wrzesniewski and Dutton 2001, Cohen 2013, 2016, Miner and Akinsamni 2016). Movement into and out of jobs is not driven solely by job vacancy chains; in the other direction, movement into and out of jobs can create change in them (Miner 1987). While traditional hiring and job design literatures suggest that this type of job evolution produces dire consequences in terms of favoritism, bias, and power dynamics, this newer literature on job evolution provides evidence that there are also benefits in terms of improved fit between jobs, individuals, organizational needs, and strategies (Miner and Akinsamni 2016).

Scholars examining job evolution have primarily focused on how existing jobs evolved within organizations: for instance, a secretary took on responsibilities for Equal Employment Opportunity reporting (Miner and Estler 1985); a VP of Finance position was added or removed (Ferguson et al. 2016); a technician handed over responsibilities for safety after a consent decree (Huising 2014). A smaller body of research has addressed negotiations over position parameters that unfold through opportunistic hiring where jobs were shaped around available candidates before launching a traditional hiring process (Miner 1987, Levesque 2005).

For the most part, this past research has ignored how jobs evolve during the most central part of the hiring process: the time between when a manager decides a body of work needs to be done and when someone is brought in to do it. Hiring is itself a highly dynamic period in which jobs are posted, networks are scoured for leads, resumes are screened, interviews are conducted, references are checked, and decisions are made about who to hire. Each of these many activities offers an opportunity for jobs to evolve. It also seems likely that the job evolution processes that occur during hiring would have

implications both similar to and different from those for other forms of job evolution. Yet, we have little direct, systematic knowledge of this phenomenon, what shapes it, and what its broader consequences are. In this paper, we ask how jobs evolve in the midst of the hiring process and what the longer-term consequences of this evolution are.

The extant job evolution literature provides hints and some empirical evidence suggesting that jobs might evolve in the midst of the hiring process and that this evolution would be consequential. Without question who is hired shapes what happens to jobs after hiring through the various individual characteristics brought into the organization (Miner 1987, Wrzesniewski and Dutton 2001). Further, opportunistic hires might also be understood as a form of job evolution through hiring, albeit a non-traditional hiring process (Miner 1987, Levesque 2005).

Other research provides illuminating, though anecdotal, examples of changes made to jobs during hiring and the consequences of this evolution. For instance, in a study of job assembly, Cohen (1997, 2013) describes the evolution of a technician job during the hiring process and the fallout of that job: The lab's Principal Investigator, Herman, drew from many similar postings and his knowledge of technicians' work from his own experience to create a job posting; he reviewed dozens of applications and interviewed multiple candidates, but none of them provided what he thought he wanted. In the meantime, he learned of a technician, Tammy, whose job at another lab was coming to an end and who seemed to be a closer fit to what he wanted than the applicants he had interviewed, but whose qualifications deviated slightly from his posting. Herman revised the job description to fit more closely with Tammy's qualifications and requirements, reposted it, and eventually hired Tammy. However, there was not an entirely happy ending to this episode. Though Tammy was initially happy to have a job and Herman was happy to have a technician, Tammy soon started complaining that she was being micro-managed and asked to do menial tasks, such as putting moths in test tubes that were beyond the job description. On the other side of the relationship, Herman complained that Tammy did not take on tasks without explicit direction. Within a year, Tammy left the lab. Even before her departure, Herman started talking about how hiring a technician had been an error, and that what he really needed was a post-doctoral fellow. Based on

research on other forms of job evolution, the type of changes and consequences illustrated in this example are unlikely to be anomalies.

To systematically answer our questions, we examined hiring processes in a sample of startups at similar lifecycle stages with fewer than 30 employees and less than three years in operation. Because startups change rapidly and often lack developed formal processes around hiring and jobs, they provide an extreme research setting where we are more likely to observe what might otherwise be relatively rare events (Merton 1987). Here, we are likely to observe more instances of this phenomenon than in established organizations so that we can build a process theory that will apply across contexts.

We find that jobs did evolve in the midst of the hiring process. Tasks were added and removed from jobs. Planned jobs were abandoned, and new ones created. Jobs were moved across hierarchical levels and retitled. In all of these cases, the job evolution was triggered by an unknown though the specifics varied across them. We identified two parallel causal pathways through which this evolution occurs: The Pathway of Anticipated Evolution, where hiring managers lacked knowledge and definition of the jobs they sought to fill and intended to use the hiring process to fill those knowledge gaps, and the Pathway of Accidental Evolution, where hiring managers were unable to anticipate what would happen in their organizations and in labor markets and were forced to adapt to the situation. Once filled, most jobs on both pathways continued to evolve. Beyond this, the longer-term consequences for incumbents and organizations varied. Most employees in jobs on the Pathway of Anticipated Evolution exited within a year and the jobs were abandoned. On the Pathway of Accidental Evolution, some jobs died or led to problems; however, other jobs and incumbents realized greater stability. These incumbents remained in their jobs and the jobs remained in their organizations.

These findings contribute to our understanding of when and how jobs evolve, of the role of the unknown in job evolution, and of the implications of job evolution. The outcome of job evolution in itself is consequential. Jobs are fundamental building blocks of organizations (Cohen, 2016) and the evolution of jobs influences what tasks are done by whom, what those in the job experience, and the shape of the organization itself. Beyond these effects, this process may consequently shape the organization's ability

to produce, adapt and learn, and ultimately to survive.

Hiring too is a critical process that determines who is in the organization and many other firm-level outcomes. Our research provides evidence that hiring affects organizations and individuals in ways beyond bringing people and skills into organizations. It also shapes the structures into which they are brought. We provide evidence that hiring and job evolution work together to determine who does what in organizations and many other consequential outcomes.

Hiring and the Evolution of Jobs

The phenomenon we are studying invokes two fundamental organizational processes – hiring and job design – that together determine who does what work in organizations. For the most part, past academic research and management advice derived from it has portrayed these as two separate and sequential processes and focused on developing prescriptive models. Even empirically-grounded human resource textbooks implicitly and explicitly suggest that these two processes are and should be independent and sequential (Baron and Kreps 1999, Kulik 2004). This idealized sequence starts when a manager learns that there will be a new body of work to do and creates a job description outlining job responsibilities, tasks, and the knowledge, skills, and abilities needed to do that work. Based on this, the manager assigns a salary and reporting relationships. Next, someone initiates the recruiting process by selectively posting and otherwise distributing that job description. Finally, applications are vetted and the candidate who best fits the job requirements is selected and hired.

Consistent with this, the dominant stream of hiring research considers the process only after there is a job to be filled and focuses on questions of what recruiting and selection methods are most effective: Are more productive employees selected through structured interviews, unstructured interviews, job samples, intelligence tests, or one of the various other methods for selecting employees (Schmidt and Hunter 1998)? How can managers assess person-organization or person-culture fit (Bowen et al. 1991, Cable and Judge 1996, Judge et al. 2001)?

A more sociological stream of hiring research addresses questions of how hiring practices

produce and reinforce inequality (Petersen et al. 2000, Fernandez and Sosa 2005, Fernandez and Fernandez-Mateo 2006, Fernandez and Mors 2008). Still others delve into the ways these processes deviate from psychological or economic models of them: for instance, Rivera (2012, 2015) documents the role of cultural matching and emotion in selection.

The primary outcomes of interest in past hiring studies concern whether those hired become productive employees, what skills are brought into the organizations, and how this shifts organizational demography and culture. Related to these outcomes, a set of scholars have begun writing about hiring as a pathway to learning and macro-level organizational change. These scholars have shown that when moving across organizations, new employees carry ideas that facilitate change in strategy, knowledge, structure, products, and practices in the organizations they move to (Boeker 1997, Kraatz and Moore 2002, Rosenkopf and Almeida 2003, Song et al. 2003, Dokko and Gaba 2012, Dokko and Wu 2017).

Across hiring research, the dominant metaphor is that of matching people to positions or matching supply to demand (Reskin and Roos 1990, Cohen et al. 1998, Fernandez and Mors 2008, Rivera 2012). The focus has been on only one side of the match: how people are matched with existing jobs. This other side of the match – how jobs come to be – is the subject of separate literatures on job design and related processes. By far, the dominant tradition here is the one associated with the task and job design literature, which offers prescriptive models built from the Hackman and Oldham (1975) task characteristics model to explain the relationship between job design and individual job attitudes, turnover, productivity, and countless other individual and organizational outcomes (e.g., Morgeson and Humphrey 2006, Grant and Parker 2009). However, by intent, this past research does relatively little to consider how jobs actually come to be and evolve.

Some scholars have turned from prescriptively explaining how tasks *should* be bundled into jobs to explaining how this process actually unfolds. This research has moved beyond the classic assumptions of job design research – that tasks are known, that they are sorted to meet well-understood goals, and that it is a process controlled by a manager working in the interest of the organization – to reveal how actions and reactions influence the assembly of tasks into jobs (Cohen 2013, 2016, Miner and Akinsamni 2016).

Much of this more process oriented research describes the deliberate actions of individual incumbents in shaping their own individual jobs: e.g., how one job incumbent might sculpt or otherwise craft their job to better fulfill their desired meanings and aspirations (Bell and Staw 1988, Wrzesniewski and Dutton 2001, Berg et al. 2010a, Berg et al. 2010b). Others describe a range of ways jobs might be shaped, intentionally or not, around the specific knowledge, skills, and abilities of actual and potential job incumbents (Miner 1987, Levesque 2005, Rousseau 2005, Ferguson et al. 2016), the patterns of day-to-day interactions among members of multiple occupations on the shop floor (Barley 1986, Bechky 2003a, 2003b, 2006, Kellogg 2010, 2011, Huising 2014, 2015), responses to problems encountered in performing a job (Pentland 1992, Bechky 2003a, 2003b, Okhuysen and Bechky 2009, Cohen 2013), or even events outside of organizational boundaries (Haveman and Cohen 1994, Lounsbury 2001). Looking across this body of research, it becomes clear that processes of job evolution do not unfold in the neat, controlled sequence portrayed in the more prescriptive models of either job design or hiring.

There is a strong theme running through research on both hiring and job evolution that deviating from prescribed practice leads to sub-optimal outcomes for organizations and their employees. Such individualized arrangements allow biases to seep into the process and hence creates inequality, instability in jobs and job incumbents, low morale, and undesirable and unpredictable power dynamics (Miner 1987, Miner and Akinsamni 2016). However, the evidence discussed above suggests that there can be benefits as well. By engaging in job crafting, individuals can improve the meaning derived from their jobs and fulfill otherwise unfulfilled callings (Wrzesniewski and Dutton 2001, Berg et al. 2010a, Berg et al. 2010b). Research on idiosyncratic jobs—bundles of formal duties of based on an individual employee's interests and/or capabilities—provides evidence of organizational benefits to these ad hoc arrangements (Miner 1987, Miner and Akinsamni 2016): enabling learning and adaptive innovation; producing structural transformation; changing organizational goals; and facilitating career mobility. Thus, any examination of job evolution in the midst of hiring should consider broader implications of this process. Does it do anything beyond reshaping the job?

Research on post-hiring job evolution leaves little doubt that these building blocks of

organizations are themselves influenced by factors across many levels – incumbent and candidate motivations and needs; managerial action; organizational structure and strategy – and have a range of effects for the incumbents and organizations. However, the processes of job evolution that unfold during the hiring process may differ from those outside of it in both causes and consequences for several reasons. To start, there is the potential for a different set of actors to be engaged in the process. By its nature, hiring opens organizations to interactions with actors beyond their immediate confines: for instance, any candidate considered for a job and any advisor in the process can provide information from the outside world that facilitates learning during hiring. This is not always the case in post-hiring evolution because it is inward facing. Further, the time horizon of during- and post-hiring job evolution also differ. Post-hiring job evolution is potentially a more protracted process than during-hiring job evolution. If learning occurs during hiring, it is a relatively quick process. Thus, the literature on post-hiring job evolution is only suggestive of factors that may play a role in the during-hiring process. It was necessary to examine this phenomenon directly to fully understand how various factors shape job evolution during hiring and its subsequent consequences.

Research Design

The nature of our research questions and our review of the literature shaped our methodological choices in this paper. Because our study was exploratory in nature and focused on questions concerning processes, we used qualitative methods that allowed us to directly observe the phenomenon of interest as well as many of the factors across levels that we have identified as potentially being important (Edmondson and McManus 2007, Eisenhardt and Graebner 2007). Our ideal research setting would allow us to learn about hiring and job evolution as it occurs during the hiring process and how the job and organization evolve over time. To fully understand job evolution in the midst of hiring and the roles played by the individual, the job, and the organizational and environmental facts, we needed to observe multiple jobs being filled in multiple organizations. Further, to fully understand the consequences of this type of job evolution, we needed to observe what occurs over time after the job was filled.

To meet these needs, we drew our data from a larger study of the unintended consequences of hiring in entrepreneurial firms primarily using ethnographic interviews and observations. In examining startups, we drew on what we call an *extreme setting* approach (Merton 1987) which shares some of the logic of an extreme case methodology (Siggelkow 2007, Chen 2015, Eisenhardt et al. 2016). We argue that because processes are less routinized and more susceptible to change in startups, we may have seen more examples of the phenomenon of interest and that this higher frequency allowed us to observe variation in the phenomenon of interest and isolate some of the mechanisms that bring about these events. We also argue that because these organizations are so small, the creation of new position represents a substantial change. However, we also believe that while these incidents may be more frequent in startups, they will occur in more established firms. Even large and established organizations sometimes lack consistent hiring routines or deviate from the ones they have. Indeed, jobs in established organizations evolve in response to various shocks and surprises. Miner and colleagues (Miner 1987, 1990, Rura-Polley and Miner 2001), for instance, have observed idiosyncratic jobs in even highly bureaucratic organizations. Similarly, Rousseau and colleagues (Rousseau 2005, Rousseau et al. 2006, Hornung et al. 2010) have observed I-Deals, and Wrzesniewski and colleagues (Wrzesniewski and Dutton 2001, Berg et al. 2010a, Berg et al. 2010b) have observed job crafting in established organizations.

Ongoing data collection for the study began in 2014 and was centered on tech-enabled startups – startups where technology was a component of the product but not the product in and of itself – with up to thirty employees and fewer than three years in operation. We wanted a set of organizations that were at a similar stage in their development and facing similar issues and that had not already hired many employees. Data were gathered through multiple methods: interviews, non-participant observation, and document review. The final database was both cross-sectional and longitudinal. The cross-sectional dimension allowed us to make comparisons across a broad set of organizations while the longitudinal dimension allowed us to understand the role of a single organization and to follow outcomes over time.

Data Sources

Cross-Sectional Interviews. We conducted semi-structured interviews with five types of

informants: early-stage entrepreneurs, hiring managers in startups, employees in startups, people who are seeking jobs in startups, and subject matter experts including former successful entrepreneurs and venture capitalists. Our sampling was based on opportunistic search within the population of people and organizations that fit our general parameters. We identified participants in five ways: 1) we approached founders and startup employees who worked in offices in a startup center; 2) we approached founders, startup employees, and job hunters at startup events (e.g., open houses and job fairs); 3) we approached founders and startup employees who were known to members of the project team; 4) we contacted people who listed themselves on a list of people seeking jobs in startups; and 5) we asked informants for suggestions of others who we should talk with.

We conducted 100 interviews with 66 individuals across 51 organizations. Table 1 shows a breakdown of those individuals across categories. In most cases (55), we did a single interview which lasted between fifteen minutes to two hours. In 12 cases, we conducted multiple interviews with individuals: 7 of these individuals had 2 interviews; 3 had 3 interviews; 1 had 8; and another had 8 interviews in one startup and 5 in another.

Table 1 about here

In seven organizations, we were able to interview multiple people, in some cases capturing both the employee and the employer perspective around a specific job and the development of practices over time. In one case, we did eight interviews over a 2-year period. Others spanned between a month and a year. These cases allowed us to gain additional, though limited, insights into what occurred after hiring. Table 2 shows the details of these cases.

Insert Table 2 about here

In the interviews with those doing the hiring, we began with background questions and then asked respondents to walk us through the last time they hired, from when they first thought about hiring through to the end. We allowed the respondents to direct the conversation but probed with questions about the different phases of the hiring process, such as how they recruited, how they decided who to interview, and what they asked about in the interview. We asked for additional cases of hiring including highly

successful, unsuccessful, or typical cases. We then asked questions about how they hire in general, what they looked for when they hired and what the outcomes of hiring are in their organizations. On the employee side, our questions paralleled those asked of entrepreneurs, but focused on how they looked for jobs in startups and what they sought in them. Most interviews were taped and transcribed. In the few cases where interviewers were not recorded, the interviewer took detailed interview notes.

In-depth case study. We did more in-depth data collection in one startup, which we will refer to as Sage. Sage fits the same criteria as the organizations described above. The first author of the paper knew the Chief Executive Officer of Sage and approached him about participating in the study after he posted a LinkedIn update about taking the CEO job. Sage was a technology-based startup and was about a year old when we started our data collection there. The decision to continue collecting data over a longer period was in part an opportunistic one. From the start, our intention was to include an in-depth longitudinal aspect to the study where we followed hiring in an organization or organizations over time. The challenge was to find an organization willing to allow us to come in for repeated interviews and observations. The Sage leadership team was willing to let us come back and conduct repeated interviews. In addition to fitting the criteria related to developmental stage, age, and number of employees, there were clear plans to double headcount in the coming months when we began our data collection. That ongoing hiring would allow us to see how hiring practices evolve within the organization and to observe longer-term consequences. When data collection began, Sage had 15 employees, primarily in the positions of developer and analyst. Eighteen months later they peaked at over 40 employees. The company was subsequently dissolved in the wake of the 2020 pandemic.

The first author spent over 150 hours distributed over two years in six distinct time periods ranging from one day to one week in the head office and another three days in their satellite office doing non-participant observation and interviewing. The second author spent 30 hours in the head office. In this time, we were able to attend meetings, sit in on job interviews, and observe daily interactions. Altogether we conducted over 132 interviews with nearly all the employees who were in the offices during our visits and follow-up interviews (phone or electronic) with these employees and others who were not present

during visits. This included all four members of the management team – the CEO, the CTO, the head of research, and the sales manager – 12 full-stack developers, 12 analysts, 9 data entry operators, and people in several other positions with one or two incumbents. Table 3 shows a full list of employees interviewed by role. Most individuals were interviewed on multiple occasions. We also collected archival information on this organization, including presentation decks from meetings, job postings, email chains concerning some hiring events, and materials used in the hiring process.

Insert Table 3 about here

Analysis

We began this project with the broad goal of understanding the unintended consequences of hiring. Through the analytical steps described below, job evolution in the midst of hiring emerged as one of those consequences.

Our first analytical step was open coding of transcripts and notes to identify larger patterns related to the unintended consequences of hiring. We began with a small set of codes created based on the literature and a review of the transcripts. As we coded, we refined and expanded the set of codes. These codes fell into several broader categories: descriptions of 1) recruiting, 2) selection, 3) the desired qualifications of candidates/jobs, and 4) short- and long-term outcomes of the hiring process. In the process of reviewing these codes, we saw that hiring influenced job assembly in several ways.

Based on this initial insight, we created a "job incident" database where we identified any occasion 1) when someone considers creating a job or actually does create a job to be filled through hiring or 2) when someone considers being hired or actually is hired for a job. This resulted in over 150 job incidents. These incidents became our micro unit of analysis, with each of them being treated as a separate case for comparison (Pratt et al. 2019). We created factual summaries of each incident, describing how each job evolved during and after hiring. For some jobs, we had only information from a single interview. For others, we triangulated data from multiple interviews with multiple stakeholders (e.g., the hiring managers, job applicants, and other employees), observations in the offices, archival documents, and internet research through LinkedIn and company websites.

We then coded these summaries to answer four questions: 1) how hiring affected job assembly, 2) what the nature of the job and organization was (e.g., job type, organizational age, job size), 3) what caused the hiring and task assembly processes to intersect in this way (e.g., change in strategy, mistakes made in crafting the original posting), and 4) what the longer-term consequences of these intersections were (e.g., employee departure, job stability). In this phase of analysis, we found that hiring provoked job evolution in three distinct periods: before the hiring process was officially launched (typically opportunistic hires); during the hiring process, after the hiring process (idiosyncratic jobs, job crafting, job assembly). We then looked to see where what we saw coincided with what was previously described in the literatures on idiosyncratic jobs, opportunistic hires, I-deals, job crafting, job assembly, and negotiated joining (Miner 1987, Levesque 2005, Rousseau et al. 2006, Tan 2015). As noted in the introduction, the pre- and post- hiring changes made have been discussed in prior literature and so we dropped these from further analyses (Grodal et al. 2020). The remaining 20 cases of evolution during the hiring process seemed to be a distinct and undocumented process, and so became our analytical focus.

In our next steps, we aimed to understand the causes and consequences of job evolution in the midst of hiring. For each of the jobs where we observed evolution in the midst of hiring, we used our summaries to create a diagram showing the proximal and distal causal conditions of its evolution, what happened to the job immediately, and the longer-term consequences of this evolution. (Examples drawn from these diagrams are shown in our findings section and in tables 6 through 8.) We then compared these diagrams to identify similarities and differences across the processes. By doing this, we identified two distinct pathways for this evolution: The Pathway of Anticipated Evolution and the Pathway of Accidental Evolution. The jobs on the Pathway of Anticipated Evolution emerged from hiring processes in which the hiring managers did not initially know what the job should be. The jobs on the Pathway of Accidental Evolution emerged from unanticipated events or learning during the hiring process.

Next, we systematically examined the longer-term consequences associated with each pathway. We looked at the effects on job incumbents and the structure of jobs and organizations. Jobs on both pathways evolved during hiring, but that evolution and its causes varied between the pathways. Similarly,

most jobs on either pathway continued to evolve beyond the initial hiring, but the stability of the job and incumbents varied across the causal conditions. We focus on these patterns below.

We report the specific data sources for each of these 20 jobs on these pathways in Table 4. For the most part, in reporting our findings, we paraphrased from transcripts and incorporated direct quotations where possible. The phenomenon was difficult to capture in a single quotation or even a series of quotations or field note excerpts. Our unit of analysis was the job incident, and job incidents do not have a voice as such. Nor do they have agency. Further, because we triangulated across data sources, we needed to find a way to report across sources. In our summaries and findings, we attempted to keep to what we knew based on data and avoid conclusions not directly observable or drawing inferences about people's thoughts or feelings.

Insert Table 4 about here.

Findings: Pathways to Job Evolution in the Midst of Hiring

Across our interviews, when talking about hiring in general, many entrepreneurs acknowledged that jobs changing during the hiring process was not atypical. As one serial entrepreneur described it: "As you meet candidates, you tend to modify the requirements based upon what you learn." A Vice President at a venture capital firm who helped startups with hiring used similar terms to describe hiring:

> In talent hacking, it's not about writing the job description and posting it on job portals. It's finding exceptional people that share the same values as your company does. When you do that, you may start with a specific role in mind, but because you are fulfilling such an important aspect of your company's goals and objectives, you often find that you are more efficient in hiring, because even if it's not a specific candidate for a specific role, they might fit in another role in the company.

Consistent with these statements, hiring managers, job candidates, employees, and experts provided examples of changes made while hiring. Below, we describe the evolution of twenty such jobs as well as the effects of this evolution on organizational and individual outcomes.

Two pathways. We observed two pathways for job evolution in the midst of hiring. Jobs landed on these pathways when hiring managers faced unknowns though the nature of these unknowns differed for the two paths. In the first, the Pathway of Anticipated Evolution, the evolution occurred when hiring

managers did not fully know what they wanted or needed, while in the second, the Pathway of Accidental Evolution, the evolution occurred when hiring managers were unable to fully anticipate what would happen in their organizations and labor markets. In the first case, the unknowns were a known part of the process and hiring managers deliberately tried to learn how to manage those unknowns during the hiring process. They expected the jobs to evolve. In the second, hiring managers believed they understood what they would want and need but unknowns surfaced during the process and were a force for adaptation and learning.

The Pathway of Anticipated Evolution

The common element across the eight jobs on this pathway is that the hiring processes were launched before the hiring manager was clear about what work they wanted done. Some hiring managers had aspects of the job set, but never the entire scope. Others had entirely open-ended job descriptions with, at most, a job title in place. Another commonality on this pathway was that the jobs themselves were new to their organizations. Some might be found in other organizations, but these were not tailored for these hiring organizations. Two of the jobs were rare in any type of organization. Those trying to fill the jobs were aware that there were unknowns and expected evolution to occur.

One example of a job on this pathway was a marketing position (Job 1.1) at Voofund[1]. The CEO, Sidney[2], described that process began when they determined that the person currently doing marketing was not succeeding: "He's failed many of his missions because of bad execution."[3] Sidney and others at Voofund then created a rough job description: "We make [a] job description because we have to. Otherwise, we will not be capable to define the skills and…build the right puzzle. That is the beginning of the process, then I'm very flexible because then you see nothing is holy, but the goal." They wanted people who Sidney described as "very gifted people who can work anywhere."

[1] All company names are psedonyms.
[2] Names were randomly generated and were not selected to convey race, religion, age, or other characteristics.
[3] Quotations are from interviews. Additional descriptions are compiled from interviews with applicants, incumbents, and managers, as well as from observations, media, and LinkedIn. Table 4 shows the sources for each job.

Sidney and others in the organization scoured their networks to identify people with related marketing expertise. For instance, the eventual hire, Kristopher, said that he ran into a team member who he knew in the street and was encouraged to apply. Team members reviewed CVs, did informal interviews, and had lengthy dinners with candidates where they discussed the job: "We asked them how they will be solving this and this problem…and we told them be careful how you answer because if we hire you, you will need to execute what you say." Sidney said that they used this information to winnow the pool down to two candidates – Kristopher and Elias who were brought in for two days of meetings[4] where he observed interactions with team members and discussed VooFund's marketing problems:

> I'm trying to simulate actually by taking a real case [describing] the way we are really working and then during this simulation I can observe the interaction between [the current team] and the two candidates…. In this case, it is where number X, that's the revenues, I want to make the revenues grow by a factor of ten in twelve months. Then I'm describing all the problems we are having and I'm putting the company naked on the table.

Both candidates and team members then presented three-month and six-month action plans outlining the steps needed to solve these problems. Sidney explained: "Each one has to come with a plan and in this case not just them, also each one in the company has to come with a plan." They answered questions about their plans and then improvised solutions. Sidney described one of his questions: "I saw there was an overlap so I told them 'Okay you are presenting the same solution to the same problem….Prove to me now that you will do better than him.'" Sidney said that they identified strengths for each:

> Elias has strong capabilities to write…. He can transform abstract feelings into something written and therefore, I will direct him more to work with journalists. It is one of the things we said today we are not visible enough. We need to write more posts and spread the word about us and so on while Kristopher is kind of an engineer way of talking and thinking and therefore, he will go more into the SEO capabilities and activities and together they also will work very closely together in certain of these missions. Kristopher also is more creative, although it is funny it doesn't look like [it at] first.… I found out that there is an [unexpected] overlap of capabilities.

After the session, Sidney described defining two marketing jobs reporting directly to him though the initial plan was to fill one job reporting to another team member. In the end, only Kristopher accepted.

[4] A member of the research team observed this event and wrote extensive field notes.

At another startup, Scimedic, Amos interviewed for and ultimately accepted a job that initially was a marketing position, but evolved into a business development position (Job 1.2). According to Amos, the first interview included the Chief Executive Officer, the Head of Technical Research, and the Head of Operations. They demonstrated their technology, but they never discussed position specifics. Amos said that the Chief Executive Officer did not seem to know what skills he wanted or what work he needed done, and asked only general questions: "They just began talking with me generally. Just tell us about what you would like to do and what you have done so far etcetera, etcetera." Amos described the Chief Executive Officer's efforts to describe the job as ineffective.

Before his second interview, Amos said the Chief Executive Officer sent him a template to write 30-day, 60-day, 90-day, 180-day, and 1- year goals. He said he responded: "I'm very happy to give you the goals, but that template is not the best way." Amos explained: "He put out the job description for only marketing, but he needs someone to do marketing, accounts, finance, sales, fundraising… practically all the business functions." Before he signed a contract, Amos said that the job description evolved to ensuring the business had enough funding from investments and products to survive for the year. Amos eventually accepted the job and said he was expecting to take responsibilities beyond those in the job description: "[The Chief Executive Officer] understands…there's like one-hundred things to be done."

At Cadible, the eventual Chief Financial Officer (Job 1.3), Jonah, said he spent about 60 hours with the company's founder, Ivan, providing friendly advice before being hired:

> I sat down with him... it was a long conversation. I basically walked him through the whole process – how to think about things….We stopped there and at another point he came back with other questions and it's just an on-going thing... And he always had different questions and he asked my take on certain things and then eventually he presented his project…to ask what I thought of it, and it seemed like a pretty interesting project and I told them that there was potential.…All these questions were essentially what amounted to a very lengthy interview.

Both Jonah (the applicant) and Ivan (the founder) described the conversations as covering topics only tangential to the position Jonah was eventually hired for. Ivan compared the hiring process to dating:

> I needed this type of person, even I don't know Jonah. What I needed is different skills so that we can build a very strong team, ….We started something very casual, and I made a very bad pitch …just to mention [a] little bit what I'm going to do and what I have achieved today, and then asked him about some financial and business questions, because I know he has such expertise.

That's the beginning – and then we had more questions and more questions, tons of questions.

Anticipated evolution also occurred when hiring managers knew there was a body of work that needed to be done and started interviewed people without first deciding whether that work would be done by an employee, another founder, a consultant, or be outsourced in some other way. One candidate, Joline, who was eventually hired for a job as a full-time HR Director (Job 1.4) at Travelent, described this type of process. She met one of the founders at a birthday party. He told her that he had some HR challenges and said, "They just invited me for an exploratory interview to see [whether] they have consulting needs or ... a need for a full-time HR [employee]." Eventually the role was defined as a full-time human resources director and Joline stepped into the role.

Four additional jobs on the Pathway of Anticipated Evolution are described in Table 5.

Insert Table 5 about here

In all of these cases, the job evolution was built into the process. Hiring managers expected that the jobs to become more defined in the hiring process as candidates and others brought information to them that filled in the unknowns that they had at the start of the process. Looking across the jobs on the Pathway of Anticipated Evolution, the job evolution almost always took the form of shifting tasks, either adding new responsibilities or narrowing the scope of the job. In some cases, a job title emerged from the process. Across cases, the hiring process itself proceeded in a linear way without managers creating new jobs, reposting jobs, or going back to the market, perhaps facilitated by the job not having been defined in a detailed way from the start. Eventually, in the six cases where we have data[5], someone was hired for the job and almost all of those reported being happy with their initial placement. Table 6 shows a summary of the changes to jobs on both the pathways.

Insert Table 6 about here

The Pathway of Accidental Evolution

[5] In the other two cases, our data comes from job candidates. One was not offered the job. The other lost interest in it. Neither knows what happened with the job.

In contrast, for the twelve jobs on the Pathway of Accidental Evolution, hiring managers entered the hiring process believing they knew what they wanted and with a more solid detailed job description that later changed. In some cases, they posted jobs, while in other cases they searched their networks. In most cases, they reviewed resumes and sometimes interviewed job candidates, before changing the job description. In every case, before anyone was hired, the jobs evolved, sometimes into completely different jobs. Each instance of job evolution on this pathway was associated with unanticipated factors that provided opportunities for the evolution of ideas about what work needed doing or who should be hired to do it. The changes varied from adding and removing tasks to abandoning jobs altogether. In some cases, hiring managers restarted the hiring process and in others the job was altogether abandoned.

Unlike jobs on the Pathway of Anticipated Evolution, the unknowns on the Pathway of Accidental Evolution were not about the tasks that belonged in the job and were not anticipated in advance of starting the hiring process. While the job evolution described on the Pathway of Anticipated Evolution always had the same origin—not knowing what was wanted or needed in the particular job – job evolution on the Pathway of Accidental Evolution was precipitated by four different types of unknowns: changing organizational needs, failed searches, unexpected opportunities, and a combination of failed search and altered organizational needs. We provide examples of each below.

Changing Organizational Needs. One way jobs ended up on the Pathway of Accidental Evolution was that shifts in organizational needs led hiring managers to change the job specifications. In one of the two jobs with this pattern, when the Chief Executive Officer and Director of Sales at Yomba started their search, they were trying to fill a full-cycle sales position (Job 2.1), according to Todd, the candidate eventually hired. After two interviews, the Chief Executive Officer told Todd that he wanted to hire him. He said: "The next week [the Chief Executive Officer] called me and said they have an organizational problem that they have too many new people starting at the same time and he would have to defer the offer to later…. For me that was just a polite decline." Todd said that he was surprised two months later, when the the Chief Executive Officer extended an offer to him; however, they told him that in the intervening months, the Director of Sales had concluded that the current sales model was not

working and changed the job from full-cycle sales to phone-based lead generation:

> I was supposed to come on board and sell directly. But he changed the role…. I would do phone prospecting for three month and essentially develop my own market. [Those are] the words he used; develop my own market.… And when there's enough demand, I would sell full-time …. My assumption is that the Director of Sales, who sells directly only to government clients… pushed me to a different sector.

Todd accepted the job with reservations: "I made it very clear…that I don't enjoy phone prospecting…. That was the part I disliked the most about my previous job. So it was… making me quite unhappy."

At another organization, the hiring managers began a search trying to find a director of marketing (Job 2.2), but ended up hiring a chief marketing officer. The Chief Operating Officer, Adam, described the changes made during the hiring process:

> I was looking for a marketing director to report to me to look after our marketing function. And I… found a really good guy…and the founder changed his mind ... He decided that actually he doesn't want a marketing director, he wants to change the brand for the whole of the business and therefore he wants a Board-level CMO….so he went off and found a CMO [Luke].

After Luke was hired, the marketing director position was abandoned.

Failed Searches. Three jobs landed on the Pathway of Accidental Evolution when hiring managers failed to identify candidates who fit the criteria they initially developed because they either inaccurately anticipated the labor market or who their position would attract. The initial stages of these cases closely resembled the normative model of hiring with hiring managers defining the job and starting the search, but when they did not find a match between their stated needs and the candidates, they modified the job description and started a new search.

One such position (Job 2.3) was initially posted as a personal assistant (PA) but became an office manager, according to Sage's CEO, Seth. He said that they wanted someone who could run the office and provide administrative help. Seth described how the role evolved during the hiring process:

> It originally had been envisioned as a PA/office manager but…when you put PA in a job ad… it becomes very difficult to filter through the quality there. The other thing is of course a really good PA costs a lot of money. So, unfortunately… and we have limited budget, so the quality of applicants we get is not so good. So, we changed the ad…So, in that case, we redefined that role to not be a PA, to just be an office manager, and to also outline to the person we were talking to that we see this role growing into like an operations manager….The role will change as the company grows and the person who takes the role needs to be able to grow with that role as well.

They hired someone who left after only two weeks for reasons unrelated to the job and then posted again. According to Seth, “We had three candidates who kind of all of a sudden seemed quite good for that role.” He explained that through the process of interviewing the candidates, the job description became clearer and eventually they hired Mary.

In another case, Sage posted to fill openings initially defined as semi-skilled analysts (Job 2.4) in their satellite office, but the applicants were all overqualified. Seth explained: “The advertisements that we had placed originally were for analysts…, but I started to realize that it’s still massively over-skilled. So, we’ve changed the advertisement to the data entry operator.” He explained that he and other leaders suspected that the initial applicants would quickly become bored and frustrated, and leave. They changed the job title to data entry operator and reworked the job posting to reflect the data entry work that they now understood to be the crucial tasks in that job. Karie, the Head of Research, explained that they later also changed the questions that they asked in interviews: “There [were] a lot of questions … like why do you want to [go into the] financial industry, how did you define the corporate governance, questions on the banking sector and so on and that’s not exactly…what we’re looking for.”

The Director of Campaign Operations, Denna, in another startup, Naturela, said that she had struggled to fill what would eventually be defined as a campaign manager role (Job 2.5). Over the course of five months, the job title transformed from implementation strategist to account manager to customer success to campaign manager as Denna failed to find the right fit: “I was finding it very challenging to find the right candidates, [so] that hire took about five months, which is a lot longer than I had wanted [it] to…” Across stages, she received resumes that she described as “just almost meaningless” to her. The first round attracted applicants from finance (“we got all these financial people coming in and I was like, no this is not going to work”) and the second round attracted applicants mostly from advertising that “didn’t fit.” In the second round, Denna said that she found one “amazing” candidate but lost her because their salary did not meet her expectations. She said she found another “great” person in that round and lost her because they were too slow. In the third round, an employee working in Naturela’s sales function, Malorie, asked about the job. Denna explained that Malorie was curious about what the job was and why

it was so difficult to fill. Malorie elaborated that on hearing the description, she said “This sounds like so much fun” and then asked Denna, “Do you think I’m a good fit for the role?” According to both, they had some back and forth and eventually Malore was hired.

Opportunistic Evolution. A third set of jobs on this pathway evolved when hiring managers came across unanticipated hiring opportunities while they were in the process of hiring for jobs different from those eventually filled. In all these cases, hiring managers created jobs that they had not envisioned when they launched their search. There were four jobs in this subset.

One startup eventually hired someone as a growth hacker (Job 2.6), though the hiring process did not begin with that intention. According to one member of the board, Adam, the hiring process started when he and the founder had a conversation about what work needed to be done in the company. He explained that many divisions needed attention—customer acquisition, customer retention, brand marketing, public relations and communications—and that he and the founder concluded that of those, customer acquisition required someone with specific skills that they lacked in-house. He said that they considered several models for doing the work, including outsourcing or partnerships, but realized they first needed someone to help them form those partnerships. John explained that initially they thought that this might be a board-level position whose incumbent would oversee multiple areas:

> So we've got this growth position. We didn't have a job description in this case. We just said, 'of the range'... because this was just a conversation between me and the founder... We talked about... customer acquisition, customer retention. You've got brand marketing. You've got PR and comms...Which bits of these can we solve with this? …Originally, we were thinking this is probably a board position. So, Marketing in its broadest sense would take over four areas. Actually, we brought that down to a head of growth.

However, Adam said that soon after settling on that definition the founder met someone, Tom, at a startup event who did not fit that definition. Tom had founded a business that raised money on Dragon's Den but the company was not succeeding, which meant that Tom would be out of a job. Adam described Tom as “a stellar guy” who had useful connections and said that Tom seemed interested in the job but only at a lower level. Adam said the job was eventually narrowed to growth hacker, with potential for expansion: “We gave Tom a clear indication that if that works out, then there's no reason why he couldn't take on

those other areas as well. So, we set the scene for that to go under him, should it be required."

At another startup, the three founders attended a job fair intending to find an intermediate developer with at least three years of experience but ended up hiring a junior developer (Job 2.7), according to one of the founders, Nicole: "We actually went in feeling that, hoping that, we would hire pretty intermediate, except I think out of 30, there was maybe like two that had been developing for three years or more… except they didn't really fit our culture." They did talk to one junior applicant, James, who had the technical and mathematical skills they were looking for. Nicole said that James had a physics degree from a top university program, showed strong logical, and analytical skills. He had worked at big, well-known companies and he spent his weekends at Hackathons. She also said that he had "soft skills" they were looking for and would fit in well: "James is just like really quirky, like he is curious, energetic and those were kind of the soft skills that we seek." They hired him as a junior developer and put the intermediate-level position on indefinite hold.

Two additional jobs that fit this pattern are described in Table 5.

Hybrids. A final set of three jobs evolved for combinations of changing organizational needs, search failure, and opportunities. At Sage, two jobs were altogether abandoned after failed searches, but it was not the failed search alone that led to abandonment. One of these jobs was for a content expert (Job 2.10). Sage launched a search for someone who could work with corporate governance analysts as a content expert. The Head of Research at Sage, Karie, identified a candidate, Hope, who fit many of the job criteria and came close to offering her the job. However, Karie and Hope came to what Karie described as a mutual agreement to stop the process. Karie explained that in part it was because Hope was not enthusiastic about the job, but that Karie also became worried that already disgruntled analysts would see bringing in a content expert as blocking their career progress and usurping the more interesting work.

Similarly, Sage set out to search for a project manager (Job 2.11) for their head office who would coordinate work from data entry operators, analysts, and possibly developers. Karia and the Chief Technology Officer interviewed candidates and one progressed to advanced stages only to be rejected because his skills did not match his salary requirements and he interview badly in later rounds. She said

that after that they re-evaluated the position and concluded that they could accomplish what was needed with people and roles already in the organization.

The evolution of one additional job on this part of the pathway is described in Table 5.

The cause and nature of the changes to jobs on the Pathway of Accidental Evolution were more varied than those on the Pathway of Anticipated Evolution. Four different unanticipated scenarios triggered this varied evolution. Changes in job titles and/or shifts in job levels were the most common while changes in tasks were less common. Some jobs were altogether abandoned and some of those were replaced with a different job and others were left unfilled. Some of these changes aligned closely with the unanticipated scenarios that triggered the evolution. The jobs that evolved because of shifting organizational conditions were the only ones that simultaneously changed tasks, levels, and titles. For most of the jobs that evolved because of failed searches, managers revised job descriptions, reposted them, and renewed the entire search process. The jobs that evolved through unexpected opportunities were all newly created jobs with tasks and titles independent of the positions initially being filled. Two of the jobs that evolved because of hybrids of unexpected events were abandoned altogether and their tasks allocated to jobs already in place. In another case (describe in Table 5), a front-end developer job was abandoned, and a full-stack developer (Job 2.12) job filled.

Consequences of Job Evolution in the Midst of Hiring

The evolution of these jobs during hiring had additional downstream implications for those hired, for the specific jobs, and for the organizations. Many jobs continued to evolve. In some cases, the incumbents left soon after hiring and in some of those the job was dissolved. In some cases, the arrangements eventually stabilized: incumbents and jobs remained or jobs abandoned during hiring remained abandoned. These longer-term consequences diverged in ways largely aligned with the pathways and other causal conditions. We discuss the changes associated with each pathway below. In this discussion, we rely heavily on observations from the longitudinal case study and other job incidents where we have more data about longer-term implications. In this description, we include counts to show

how wide-spread something was but given the relatively small numbers these accounts are not cannot be taken as causal inference or as statistical evidence. Rather, these are suggestive patterns we observed. Detailed accounts of these longer-term consequences are shown in Table 7 and summarized in Table 8.

Insert Tables 7 & 8 about here

Pathway of Anticipated Evolution

Continued evolution. In ways similar to those described in existing literature on post-hiring job evolution, the jobs on the Pathway of Anticipated Evolution, except 1.5 and 1.7, continued to evolve even after hiring: more tasks were added; other tasks were shifted away. Indeed, in many of these cases, the hiring managers had anticipated that evolution would not stop immediately after hiring. Not all of the already unknown elements were resolved with hiring. This evolution continued throughout the span of or observations.

Incumbent exit and job dissolution. In four of the eight cases on the Pathway of Anticipated Evolution, the incumbents left the organization within a year. Several left to take jobs in other organizations. To our knowledge, none of these exits were for performance-related reasons. In none of these cases, was a new person hired into the job. Rather, the job was in essence dissolved. In contrast, two of the jobs on the Pathway of Anticipate Evolution, the human resources director (Job 1.4) and the senior advisor (Job 1.8), showed some patterns of stability. Tasks were added for both, but the jobs and the incumbents remained beyond a year. For the other two jobs on this pathway, we have no follow-up data.

Pathway of Accidental Evolution

Continued evolution. Many jobs on the Pathway of Accidental Evolution continued to change even after hiring in ways parallel to those on the Pathway of Anticipated Evolution. The only jobs on this pathway that did not evolve were those associated with hybrid combinations of causal conditions, where the job was abandoned.

Conflict, incumbent exit and job dissolution. For three of the jobs on this pathway, there was conflict and the incumbents exited the organization involuntarily and the jobs were dissolved. This was the case for both jobs associated with shifting organizational conditions. In one case, after hiring, the job

failed to evolve in the way that the incumbent had expected. Todd, who had interviewed for the full cycle-sales job (Job 2.1) that evolved to become a lead generator job, was initially told that he would work in that role generating leads in the financial sector for only three months. Todd explained that the Director of Sales exercised complete control over the much more lucrative government sector and this made his job difficult. He was unsuccessful in generating new leads within his assigned territory, and the three months was extended. Todd said that he continued to have difficulties generating leads and after nine months was let go. He attributed his exit, in part, to ongoing territorial disputes with the sales director. He went on to be an Account Executive at another firm and remained there for over three years.

For Luke, who was hired as a chief marketing officer in a role initially designated for a marketing director (Job 2.2), the role never solidified. According to Adam, the Chief Operations Officer involved in his hiring: "This guy comes in and…he got told, 'Go in there and shake it up. You can decide what parts of the business are brought to you….' so he spent the first few months drawing up organization charts which had a bunch of people reporting to him." According to Adam, this pattern of behavior continued for two years and produced protracted territorial conflicts. As the situation escalated, people became more and more bitter, and eventually the company split into camps, according to Adam. Eventually the Chief Marketing Officer himself was asked to leave because he was not doing his core job.

A third job that fit a similar pattern was associated with opportunistic evolution. Corey, the Vice President of Marketing (Job 2.9) hired at RestUp left the job only a few months after joining. One of the founders explained that the job itself and their expectations had not changed after hiring, but that Corey was not accomplishing what he was hired to do. She said that they gave him a lot of autonomy about how to do the job: "We kind of give him free range and that's kind of what we wanted where like this is your department, you kind of go through what you need to do." Several weeks into the relationship, he was not delivering results. She explained: "I think the frustration I had was … about results." They had a conversation in which they provided feedback about their frustrations and set up a series of regular progress meetings. He departed soon after this conversation. The position did not re-appear in the organization until two years later.

Stability in Arrangements. Not all of the jobs that evolved during hiring experienced additional turbulence. In many cases described in this paper, the new arrangements made during hiring remained in place beyond the one-year mark. Two distinct types of stability emerged. In the first type, the jobs and the incumbents remained in place with some relatively minor job evolution. For instance, Mary, the Office Manager (Job 2.3) reported taking on additional tasks as time progressed, including some human resources administration and coordinating office moves, but all of this fit within the initial description of the job. Until the company folded more than two years after she was hired, both Mary and the job remained in place. The Data Entry Operator (Job 2.4) position that replaced the semi-skilled analyst position at Sage also remained in place and expanded to include as many as twelve incumbents at one point. The job itself remained essentially unchanged, though the training materials and systems surrounding the job evolved. Two of the initial incumbents were eventually promoted into analyst positions, while many others remained in the job until the company folded. One incumbent was let go for poor performance. Others eventually left the organization for reasons seemingly unrelated to the job itself: to pursue studies for a pilot license; to return to Australia for visa reasons; for health reasons. These jobs were both on the Pathway of Accidental Evolution and associated with failed searches.

Similarly, some of the jobs associated with opportunistic evolution on the Pathway of Accidental Evolution showed similar patterns of stability, with some tasks changing, but jobs remaining intact and incumbents remaining employed. For instance, the job of the Information Technology Expert (Job 2.8) evolved with his hiring manager describing him as helping with tasks beyond those initially envisioned. The initial incumbent remained in the job several years later. Similarly, the Growth Hacker (Job 2.6) and Junior Developer (Job 2.7) remained in their jobs and there was little additional evolution. In both cases, additional incumbents were brought into the positions they held.

Another type of stability in arrangements was for jobs that were abandoned in the hiring process. The content expert (Job 2.10) and project manager (Job 2.11) were never filled and did not evolve into different jobs. The tasks initially slated for those jobs were performed by incumbents in other roles. The third job on this pathway was a front-end developer (Job 2.12) job that evolved into a full-stack developer

position. Like the content expert and project manager jobs, the organization never created a distinct front-end developer position. In this case, the redefined position was one that already existed in the organization, and was held by multiple incumbents.

Across these jobs, incumbents reported being satisfied with their jobs as they evolved during and after the hiring process. The Data Entry Operators as a group reported being satisfied with their positions, more so than those in many other positions at Sage. For instance, one described the job as being even better, and requiring more judgment, than she had expected. Another compared the job favorably to other data entry jobs she had held. Similarly, the person hired as a full-stack developer (Job 2.12) described himself as pleased by the switch, and remained at the organization – even when offered a job by a competitor – until it folded.

Alternative Explanations for Job Evolution in the Midst of Hiring

Here we address some potential alternative explanations for our observations and how well these fit with our observations and with observations from our broader dataset.

Job Characteristics

One explanation for our observations comes directly from the literature on job and task design (Hackman and Oldham 1975; Morgeson and Humphrey 2006). This literature suggests that something about the character of these jobs and the tasks in them explains their evolution and its consequences. This pattern is not evident. The jobs that evolved were diverse in level, function, and skills, yet often had common paths of change, and the causes of evolution were not shaped by intrinsic features of the jobs.

What they shared was that all but a handful of the jobs that evolved were new to their organizations (e.g., the first chief financial officer or dedicated marketing position) and some were also relatively new to the world. These were for a growth hacker and a customer success manager, positions rarely seen a decade ago that remain relatively rare. Even jobs that were established in other organizations were adjusted to specific organizational needs. For instance, while data entry operator is a well-established position, the specifics of that role differed for Sage, so much so that the people hired into the role who had held similar data entry jobs described it as differing from those jobs.

Hiring (In)Experience

Another possible explanation for the occurrence of job evolution in the midst of hiring is that the hiring managers lacked experience, formal processes, and/or sophistication in hiring. Startups are expected to have inexperienced managers, to lack resources to devote to hiring processes, and to have less developed human resources systems (Aldrich and Langton 1997, Cardon and Stevens 2004, Bendickson et al. 2017). Contrary to this, many of the hiring managers for the jobs on the two pathways had significant experience hiring for jobs in both startups and more established organizations, and used at least some techniques considered best practices in hiring research, including behavioral interviews, work samples, multiple interviews (Schmidt and Hunter 1998, Baron and Kreps 1999, Rynes et al. 2007).

What they lacked was experience in filling the specific jobs as instantiated in this organization. For instance, for the marketing director job (Job 1.1) on the first pathway, the CEO of Voofund, Sidney, had thirty years of hiring experience, both in the startup environment and in more established organizations. He described a general approach to hiring that reflected knowledge of what is acknowledged as best practice for hiring in textbooks and more popular HR writings. For the Campaign Manager (Job 2.3) on the Pathway of Accidental Evolution, the hiring manager, Denna, at Naturela had previously filled jobs at both this organization and others. She used work sample tests and behavioral interviews. She described consulting existing materials on related jobs at other organizations, and even worked with a mentor to create her hiring process:

> [My mentor] has come in, so she really helped me really understand…the interview process, what to look for, how to compare candidates fairly, what exercises to give them, and how to evaluate the exercises. Making me think about...What's the absolute importance that I am looking for and then how to work backwards and ask questions?

Even with this information, her search twice failed to turn up anyone who fit with what Denna envisioned, and Denna had to restart the hiring process twice. Similarly, Seth, the Chief Executive Officer at Sage, spent years in an established organization known for state-of-the-art hiring practices and for most jobs, including those described above, they had developed sophisticated interview practices and work sample tests. Yet, as he described it, when he and Karie wanted to create a new role for a specialized data

entry job (Job 2.2), they had no prototype for the description and modelled it on the closest existing job: a data analyst position in which employees were already performing data entry.

Only in two of the twenty cases did the hiring manager lack substantive hiring experience. In the case of hiring of Jonah as CFO for Cadible (Job 1.3), the founder doing the hiring, Ivan, was a technical expert and had never been a hiring manager. In the case of the business development position (Job 1.2), the Chief Executive Officer who led the hiring efforts had a highly technical background and lacked knowledge of the hiring processes for a job like this one. Thus, lack of hiring experience does not appear to cause or contribute to job evolution in the midst of hiring.

Hiring Practices

Related to this, another potential explanation is that some hiring practices would be more likely to produce evolution during hiring and that these practices would be more common in startups. For instance, recruiting through networks or using less formal hiring practices might lead to evolution in the midst of hiring, while using more established practices in hiring would be less likely to do so. We saw little evidence of this. In all but three cases where we observed job evolution in the midst of hiring, managers used at least some form of interview, and often used structured behavioral interviews and collected work samples. While half of the cases we saw involved network recruiting, half did not.

Organizational Characteristics

Another factor that might be critical here is the characteristics of the organization itself: Some organizations may use these practices while others do not—for instance, smaller and younger organizations; organizations in cultural industries—but we saw little evidence that organizational characteristic explained differences in job evolution. In the organizations where we observed multiple hiring instances, we saw a mix of jobs that did and did not evolve in the midst of hiring, and a mix of the two pathways within those.

Alternatives to Job Evolution in the Midst of Hiring

Another question to consider is what the alternatives to this type of job evolution might have been and how those alternatives would have played out: What are the counterfactuals around this process? For

the Pathway of Anticipated Evolution, there are two clear alternatives to job evolution in the midst of hiring. The first would be for hiring managers to spend more time scoping out the job before starting the hiring process. This is something that we saw happen for other jobs in our dataset. Yet, based on our observations, it is not clear that doing this would have provided any clear advantages, and may in some cases, have led to worse fit between the job and incumbent and more job evolution after hiring. The other alternative would be to hire without defining the job at all. Again, we did see cases where hiring managers brought in people without defining the job at all. For instance, Seth, the CEO of Sage, hired two business interns without defining the tasks and responsibilities for those jobs. His explained that his reasoning was that there was so much work that needed to be done that he should quickly bring in people. He used his networks to identify and hire two students from a top MBA program. Their specific jobs became defined based on their preferences and Sage's specific needs at the time. They helped create pitch decks, presented financials, and worked on marketing. Seth and the interns reported being satisfied with the outcome. However, this approach might be less effective when organizational needs are more defined or when the job is intended to be a more permanent fixture in the organization.

For the Pathway of Accidental Evolution, the clearest alternative would also have been to spend more time analyzing the job and the labor market. This might have saved these startups a round of search or helped avoid later conflicts. However, in these cases, hiring managers did not understand that they were lacking information, making it difficult to take this approach. They also might have continued on the original path, but failing to respond to unanticipated events would have likely led to problems such as unfilled jobs or jobs and incumbents that were not well adapted to the organization and environment.

Discussion

We began this paper by observing that scholars are building models of job evolution that differ from the formal top-down processes. These scholars have provided evidence that job evolution can have positive implications as well as the more negative ones typically described in more traditional job design research. These scholars, however, have paid little attention to how jobs evolve in the midst of hiring—

after hiring managers have decided that they need someone to perform a body of work and before they actually bring someone in to perform it. We argued that because hiring is an extremely active period – advice is sought, job descriptions are created and posted, networks are activated and expanded, people are interviewed and selected—it would provide opportunities for jobs to evolve. We argued that job evolution in the midst of hiring is an important process that links to individual, organizational, and even societal outcomes. It shapes the work that is done across jobs within organizations and so in turn shapes organizations' ability to produce. It shapes the financial and psychic rewards that employees receive, and so shapes levels of inequality within and across organizations. It shapes employee interactions, and so shapes networks and culture.

We found many incidents of jobs that evolved in the midst of hiring: tasks were added and removed; job titles and levels were changed; jobs were abandoned altogether or replaced with alternatives. We identified two parallel causal patterns linked to unknowns in the hiring process. The first was the Pathway of Anticipated Evolution, where hiring managers started searches before fully defining jobs. These jobs evolved immediately and then continued to evolve after hiring. In most cases, neither the incumbents nor the jobs remained in the organizations beyond a year. The second was the Pathway of Accidental Evolution, where jobs evolved in response to changes in organizational needs, failed job searches, and unforeseen opportunities. The subsequent consequences on this pathway were diverse for jobs, incumbents, and the organizations in which they reside. Most jobs continued to evolve after hiring and many of these jobs and their incumbents remained stable fixtures in the organization. Some of the jobs on this pathway were abandoned altogether and never re-instated, providing a distinct form of stability. In the two cases where organizational needs shifted, there was conflict surrounding the work with incumbents and jobs soon leaving.

We consider these observations in the context of what scholars know about hiring, job evolution, and human resource processes in general. We then examine the relationship between our observations of job evolution in the midst of hiring and other types of job evolution. Because we used startups as an extreme setting, we end with a discussion of how this might apply in established organizations as well as

what insights they might offer startups and their employees.

Implications for the Study of Hiring and Job Design

In our study, we shifted from the normative focus of traditional hiring and job design scholars to examine how these processes actually unfold and intersect. This approach provided a glimpse of what occurs along the way and allowed us to glean insights into why outcomes might deviate from the expectations outlined in the dominant literatures on the topics. What also emerged from our work is a very different image of how these processes work together: Rather than being sequential, these processes are deeply interwoven, and neither should be considered in isolation of the other.

Hiring and job design might be more accurately seen as processes of problem-solving, improvisation, or learning. In particular, our observations of on accidental evolution build on research that has shown ways that surprises and problems provide opportunities to structure work. Consistent with this, job evolution in the midst of hiring might be seen as an example of improvisation – the "fusion of the design and execution of a novel production" (Ciuchta et al. 2021: 560; Miner et al. 2001: 314). A defining feature of organizational improvisation is extemporaneity, which implies that portions of the action are not planned or anticipated in advance (Cunha et al. 1999, Miner et al. 2001, Crossan and Sorrenti 2002). Our data showed that even though the extent of improvisation varied between the two pathways, at least some part of the job design occurred in response to unknowns during hiring. The improvisation literature has provided valuable insights on the value of improvisation for organizations and the creation of adaptive practices across an array of contexts (Ciuchta et al. 2021), but it has yet to be systematically applied to hiring and jobs. Our observations suggest that this is a fruitful avenue for research.

Organizational Learning. Across the two pathways, entrepreneurs seemed to learn lessons from their broader ecosystem while hiring. This finding expands on past work showing relationships between mobility and learning by considering how what happens even before hiring can facilitate this type of learning. Our findings of the different evolutionary pathways offer further insights about how learning differs, both in terms of what triggers it and in the consequences. For jobs on the Pathway of Anticipated

Evolution, hiring managers intentionally set out to learn how they might organize work in their startups. The interviewees delivered lessons, though not always lasting lessons. These jobs continued to evolve, and both incumbents and jobs were gone within a year. There may have been learning, but it did not lead to robust structuring. These are the types of outcomes often described as negative in the traditional hiring and job design literatures (Miner and Akinsamni 2016).

For jobs on the Pathway of Accidental Evolution, hiring managers did not deliberately set out to learn, but were forced to adapt to shifting circumstances or to take advantage of unforeseen opportunities. Even though the learning on this pathway was a side-effect rather than a goal, it sometimes had more robust effects. Some of these lessons appeared to stick with the startups longer term. Often when jobs were redefined after failed searches, the redefined jobs continued to evolve, but both jobs and incumbents remained in place. Similarly, our observations suggest that abandoned jobs remained abandoned. These findings of learning and relative stability are consistent with the benefits described in the literatures on idiosyncratic jobs and job crafting. However, for some other jobs on the Pathway of Accidental Evolution, there was extended conflict over the structure of the jobs, incumbents soon left in less- than-favorable circumstances, and the jobs were eliminated from the organization. This is closer to the consequences we saw on the Pathway of Anticipated Evolution.

Unintended consequences. We saw that both hiring and job design processes have unintended consequences that might have been missed with a narrower focus on outcomes. Hiring is not only about bringing in warm bodies to execute known tasks in known structures. It is linked to learning and the evolution of job and organizational structure. It is also notable that the elimination of tasks and other changes in job and organizational structure sometimes occurred without anyone ever being hired. For job design, we see that changes in job design have subsequent consequences for the focal and connected jobs, for job incumbents, and for organizations. We make no claim about whether these and other unintended consequences are good or bad for individuals or organizations, but we are able to say that it is a problem to ignore this potential.

Other Job Evolution Processes

We noted in the introduction that we are not the first to consider hiring and job design as processes. In particular, on the topic of job design, scholars have documented alternatives to processes driven by managerial, technological, and administrative imperatives. Much as we did in our study, they theorize about the more social nature of these processes and, like us, show that many factors and parties beyond the boundaries of the job (and even the organization) have active roles in the process (Cohen 2016). In the sections below, we work to reconcile our findings to the work of these scholars and to understand where this work converges and diverges from our findings.

Several jobs, including the Advisor (Job 1.8,) and the Vice President of Marketing (Job 2.9), have elements of opportunistic hiring (Miner 1987, Levesque 2005), but not all jobs that evolved in the hiring process did. Nor does every case of opportunistic hiring in our broader data or beyond fit the definition of job evolution in the midst of hiring. Thus, though the concepts overlap, they are distinct.

Our findings inform and are informed by research on idiosyncratic jobs. However, while many of the jobs in our study remained idiosyncratic, job evolution in the midst of hiring did not always produce permanently idiosyncratic jobs. Some of the jobs that evolved became fixtures and expanded to include multiple incumbents. Another parallel here is that, like us, scholars of idiosyncratic jobs provide evidence that unknowns sometimes play a role in the creation of idiosyncratic jobs, but are neither a requirement nor a guarantee of job evolution. One reason that these factors don't guarantee job evolution post-hiring is that there are many more constraints around existing jobs, including job incumbents, pre-existing job and occupational structures, and relationships (Cohen 2016). As a result, making changes to pre-existing jobs and structures can be difficult and costly in terms of time, worry, and finances (Stinchcombe 1965). Indeed, there is substantial evidence of inertia in jobs even in startups (Burton and Beckman 2007, Beckman and Burton 2008, 2011). Taken together, this suggests that unknowns may make post-hiring job evolution more likely, but will not always lead directly to it.

Consistent with this, where we had longer-term observations, we were able to see post-hiring job evolution for some existing jobs in the face of these types of unknowns. In many of these cases, either managers or job incumbents tried to make changes to jobs without success. For instance, Seth, the chief

executive officer at Sage, described a strategic pivot that by nature created many unknowns and yet did not produce change across jobs. Like Seth, many managers across organizations faced resistance from job incumbents, and many job incumbents faced resistance from managers who were invested in the existing structures. It may be that in the hiring period, before either the structure or the incumbent is set, and the levels of inertia surrounding jobs are lower, there is more freedom to make changes.

Some of the job evolution we observed might also be viewed as pre-hire job crafting in contrast to the post hire crafting most often describe in the literature. However, unlike job crafting, much of the evolution we observed was independent of the incumbents and even when future incumbents were involved, the changes were most often made in concert with the hiring manager and in response to organizational conditions.

There is another potentially important connection between job evolution in the midst of hiring and these forms of post-hiring job evolution. The dynamics of job evolution during hiring may create jobs that will be crafted or that can easily become idiosyncratic. Indeed, most of the jobs described here continued to evolve beyond the hiring interface. However, evolution in the midst of hiring is not a set recipe for idiosyncratic jobs, job crafting or other forms of post-hire job evolution. While most of the jobs created through these processes were either idiosyncratic and/or underwent some crafting, others were neither idiosyncratic nor subsequently crafted. The jobs of Data Entry Operators, Junior-Level Developers, and Full-Stack Developers remained stable, perhaps because there were multiple incumbents in them. Further, the idiosyncratic jobs that emerged on the Pathway of Anticipated Evolution continued to evolve, but were quickly abandoned.

Looking at the process of job evolution in the midst of hiring together with these other processes of job evolution suggests that job design is a far more complex process than implied in more traditional human resources perspectives. It is not always a one-time action controlled by a knowledgeable manager or dictated by technology. Rather, job design needs to be seen as something that occurs on a continuous basis. It is more assembly than design (Cohen 2013), and that ongoing assembly varies depending on a job's context, including not only the imperatives of managers and technology, but the unknowns

surrounding the work and the organization as well as the goals and knowledge of those who fill the jobs. It may be fruitful to think of jobs as differing in degrees of deliberate design and deliberate evolution.

Job Evolution in the Midst of Hiring for Established Organizations

Because we considered the startup environment an extreme research setting, there are naturally questions about how generalizable the processes we observed are for more established organizations. We argued that the types of unknowns associated with this form of job evolution would also occur in established organizations. Not all jobs in established organizations are themselves well established. For instance, we are currently observing changes in tasks around Artificial Intelligence (AI) and Data Mining, and, more recently in response to the 2020 pandemic. In these conditions, even managers in established organizations face unknowns in organizing new work and in the market for employees to perform that work. Indeed, many studies have documented ways that changes in technology, regulation, social movements, and other events produce and eliminate tasks that spur job evolution. Evidence suggests that 10 to 12 percent of jobs in even highly bureaucratic organizations are idiosyncratic (Miner 1987). Even the proverbial cement company must occasionally adapt, and that adaptation may lead to job evolution mirroring what we saw here.

One significant difference between the startups examined here and more established firms may be the depth of resources available to help manage unknowns, especially in larger established organizations. However, it is not clear how those resources would shape job evolution. Organizations with deeper resources may be more able to absorb and manage uncertainties. Alternatively, those resources may be invested in making changes to structures even before hiring begins. Consistent with this, evidence suggests that resources facilitate structural evolution. In a study of the effect of misfit between top managers and the skills needed in young tech organizations, new positions were created in response to skill gaps only after firms secured more funding (Ferguson et al. 2016). Finally, established organizations, regardless of size, greater history and resistance may strengthen the forces of inertia, making change less likely. Future research may want to consider how job evolution is shaped by

resources and inertia and by organizational life stage more broadly.

Implications for Startups

While we have argued that our findings would likely also be representative of processes in established organizations, they hold implications specific to the study and practice of entrepreneurship. Our observations provide insights about one previously undocumented process by which entrepreneurs create structure and scale up more generally. These organizations were assembling structures and scaling up job-by-job. Founders do not and cannot anticipate all that needs to be done within their organizations; as a result, significant parts of the organizational structure, specifically jobs, may need to be created in this emergent way. A more methodical approach to defining strategy and structure may be unachievable and even ill-advised. This is consistent with perspectives that treat startups as emergent structures (Yang and Aldrich 2017). These changes may seem small when examined out of context. Indeed, in a large established organization, the evolution of a single job might not have substantial cascading effects; in our context, they may. We examined jobs that were, for the most part, one out of three or thirteen (and at most 30) jobs in their organizations, not one out 300 or 3,000. Changes to a single job in this context could cascade to affect all jobs and the overall structure. Finally, like other recent entrepreneurship research (Burton et al. 2019, Sorenson et al. 2021), our research highlights the importance of examining employees and employment across levels. By shifting the focus from the upper echelons, we shed light on how lower-level positions are filled and revealed structural dynamics that might otherwise be missed.

Practical implications for workers and startups. This research has implications both for those running startups and for those seeking work in startups. Much of this is around the question of what happens further down the development path. For employees, these processes influence the jobs that they hold and those jobs in turn influence the distribution of rewards and inequality associated with these jobs and the opportunities that will be available in the future. For instance, evidence suggests that people in unique jobs exact wage premiums (Baron and Pfeffer 1994). This type of job evolution is one way that such distinctions can be created. The fit between employees and jobs is associated with positive outcomes

and this process can improve fit. On the flip side, these job evolution patterns might explain penalties for working in startups (Burton et al. 2018, Sorenson et al. 2021), as they can produce less stable jobs.

These processes of job evolution may make it more difficult and costly for people to get jobs and for organizations to get employees. Evidence suggests that barriers to entry into jobs are created by requiring insider knowledge about openings and the nature of the jobs themselves. People without insider knowledge or access to the networks that provide knowledge about job evolution would be at a distinct disadvantage. Awareness of these patterns of job evolution may not be equally distributed across social and demographic boundaries and so may lead to unequal access. Further, job seekers may be frustrated by non-existent or shifting job descriptions and eventually leave the labor market.

Not only does job evolution potentially make it more challenging for peripheral actors to find these jobs, but it may also make it harder to attract the right employees. There are additional costs to organizations in terms of time and effort spent on these processes. When jobs evolve in these ways, organizations may take longer to fill them and this leaves others to do the work. Hiring managers and existing employees may be frustrated when they fail to fill jobs.

Avenues for Extended Research

Our research also raises many questions about even longer term-consequences of during-hiring job evolution for established and emerging companies and for the people who work in them. It would be interesting for future research to pursue more systematically the transitional and end states of these newly created jobs in ways that we could not in this study. We had a relatively small number of cases on each pathway, in each condition, and with each outcome which made it difficult to develop an indepth understanding of causality. Here we primarily reported the correlational connections that we observed and this only allows us to speculate on when and why, for instance, one pathway (Accidental Evolution) or source of unknowns (change in organizational conditions) lead to particular outcomes (conflict, exit and job death) and whether that and other outcomes are inevitable.

Further, our observations rarely extended beyond a year's time and so we cannot answer questions about truly long-term consequences: For instance, how long did jobs continued to evolve; how

did that evolution affect the careers of those in these evolving jobs; how did the evolution of a job affect those in other jobs; whether and how did these jobs became more permanent features of their organizations; and whether these processes of job evolution benefited or detracted from employees and employers, Nor do we have clear advice to offer for either employees or employers on how they might effectively manage this type of process. At this point in the research trajectory, we can only raise awareness that this is a process that occurs and suggest that this awareness will help all to be more effective at the hiring interface. Future research should build a stronger baseline understanding of the benefits and costs of this process and how best to manage those: for instance, how should those applying for jobs interpret job postings; how can those creating job posting communicate the possibility of this type of evolution; what should be done within organizations to best manage jobs that evolved during hiring as part of the overall structure.

Implications for Understanding the Future of Work

We end this paper by connecting our observations to the larger societal developments around us that are labelled as the Future of Work. This paper provides some insights into why we as scholars may fall short in our ability to foresee the Future of Work and how we can better understand it. While many predict that emerging smart technologies like Artificial Intelligence (AI) will affect billions of jobs, there is much debate about what those effects will be: Will AI lead to upskilling or deskilling? Will it lead organizations to add more jobs than they eliminate, or vice versa? Our observations of the processes of job evolution highlight one of the reasons it might be so difficult to decipher this future. We do not yet have a firm handle on local processes of job evolution in response to unknowns during hiring. In that context, it seems more global predictions about the Future of Work will fall short.

References

Aldrich H, Langton N (1997) Human resource management practices and organizational life cycles. *Frontiers of Entrepreneurship Research, Wellesley, MA: Babson College Center for Entrepreneurship*:349-357.

Barley SR (1986) Technology as an occasion for structuring: Evidence from observations of CT scanners and the social order of radiology departments. *Administrative Science Quarterly* 31:78-108.

Baron JN, Kreps DM (1999) *Strategic Human Resources: Frameworks for General Managers.* (John Wiley & Sons, Inc. , Hoboken, NJ).

Baron JN, Pfeffer J (1994) The social psychology of organizations and inequality. *Social Pyschology Quarterly* 57(3):190-209.

Bechky BA (2003a) Object Lessons: Workplace artifacts as representations of occupational jurisdictions. *American Journal of Sociology* 109:720-52.

--- (2003b) Sharing meaning across occupational communities: The transformation of understanding on a production floor. *Organization Science* 14(3):312.330.

--- (2006) Gaffers, gofers, and grips: Role-based coordination in temporary organizations. *Organization Science* 17(1):3-21.

Beckman CM, Burton MD (2008) Founding the future: Path dependence in the evolution of top management teams from founding to IPO. *Organization Science* 19(1):3-24.

--- (2011) Bringing organizational demography back in: Time, change and structure in top management team research. Carpenter MA, ed. *Handbook of Top Management Team Research* (Edward Elgar, Cheltenham, UK), 49-70.

Bell NE, Staw BM (1988) People as sculptures versus sculpture Arthur MB, Hall DT, Lawrence BS, eds. *The Handbook of Career Theory* (Cambridge University Press, New York), 232.250.

Bendickson J, Muldoon J, Liguori E, Midgett C (2017) High performance work systems: A necessity for startups. *Journal of Small Business Strategy*.

Berg JM, Grant AM, Johnson V (2010a) When callings are calling: Crafting work and leisure in pursuit of unanswered occupational callings. *Organization Science* 21(5):973-994.

Berg JM, Wrzesniewski A, Dutton JE (2010b) Perceiving and responding to challenges in job crafting at different ranks: When proactivity requires adaptivity. *Journal of Organizational Behavior* 31(2.3):158-186.

Boeker W (1997) Executive migration and strategic change: The effect of top manager movement on product-market entry. *Administrative Science Quarterly* 42:213-236.

Bowen DE, Ledford GE, Jr., Nathan BR (1991) Hiring for the Organization, Not the Job. *The Executive* 5(4):35-51.

Burton MD, Beckman CM (2007) Leaving a legacy: Position imprints and successor turnover in young firms. *American Sociological Review* 72(2):239-266.

Burton MD, Dahl MS, Sorenson O (2018) Do start-ups pay less? *ILR Review* 71(5):1179-1200.

Burton MD, Fairlie RW, Siegel D (2019) Introduction to a special issue on entrepreneurship and employment: Connecting labor market institutions, corporate demography, and human resource management practices. *ILR Review* 72(5):1050-1064.

Cable DM, Judge TA (1996) Person–organization fit, job choice decisions, and organizational entry. *Organizational Behavior and Human Decision Processes* 67(3):294-311.

Cardon MS, Stevens CE (2004) Managing human resources in small organizations: What do we know? *Human Resource Management Review* 14(3):295-323.

Chen KK (2015) Using extreme cases to understand organizations. Elsbach KD, Kramer RM,

eds. *Handbook of Qualitative Organizational Research* (Routledge, New York), 65-76.
Ciuchta MP, O'Toole J, Miner AS (2021) The Organizational Improvisation Landscape: Taking Stock and Looking Forward. *Journal of Management* 47(1):288-316.
Cohen LE (1997) Deus ex machina?: A study of how jobs are designed. Dissertation, University of California, Berkeley.
--- (2013) Assembling jobs: A model of how tasks are bundled into and across jobs. *Organization Science* 24(2):432.454.
--- (2016) Jobs as Gordian Knots: A new perspective liking individuals, tasks, organizations and institutions. *Research in the Sociology of Organizations* 47:25-59.
Cohen LE, Broschak JP, Haveman HA (1998) And then there were more? The effect of organizational sex composition on hiring and promotion. *American Sociological Review* 63(5):711.727.
Crossan M, Sorrenti M (2002) Making sense of improvisation. *Organizational improvisation*:27.
Cunha MPe, Cunha JVd, Kamoche K (1999) Organizational improvisation: What, when, how and why. *International journal of management reviews* 1(3):299-341.
Dokko G, Gaba V (2012) Venturing into new territory: Career experiences of corporate venture capital managers and practice variation. *Academy of Management Journal* 55(3):563-583.
Dokko G, Wu GA (2017) Boundary-Crossing Job Mobility, New Product Area Entry, and the Performance of Entrepreneurial Ventures. *Research in the Sociology of Organizations*, vol. 50 (Emerald Publishing Limited), 419-448.
Edmondson AC, McManus SE (2007) Methodological fit in management field research. *Academy of Management Review* 32(4):1155-1179.
Eisenhardt KM, Graebner ME (2007) Theory building from cases: Opportunities and challenges. *Academy of Management Journal* 50(1):25-32.
Eisenhardt KM, Graebner ME, Sonenshein S (2016) Grand challenges and inductive methods: Rigor without rigor mortis. *Academy of Management Journal* 59(40):1113-1123.
Ferguson AJ, Cohen LE, Burton MD, Beckman CM (2016) Misfit and milestones: Structural elaboration and capability reinforcement in the evolution of entrepreneurial Top Management Teams. *Academy of Management Journal* 59(4):1430-1450
Fernandez RM, Fernandez-Mateo I (2006) Networks, race, and hiring. *American Sociological Review* 71(1):42.71.
Fernandez RM, Mors ML (2008) Competing for jobs: Labor queues and gender sorting in the hiring process. *Social Science Research* 37(4):1061.1080.
Fernandez RM, Sosa ML (2005) Gendering the job: Networks and recruitment at a call center. *American Journal of Sociology* 111(3):859-904.
Grant AM, Parker SK (2009) Redesigning work design theories: The rise of relational and proactive perspectives. *The Academy of Management Annals* 3(1):317-375.
Grodal S, Anteby M, Holm AL (2020) Achieving rigor in qualitative analysis: The role of active categorization in theory building. *Academy of Management Review* (ja).
Hackman JR, Oldham GR (1975) Development of the job diagnostic survey. *Journal of Applied Psychology* 60:159-170.
Haveman HA, Cohen LE (1994) The ecological dynamics of careers: The impact of organizational founding, dissolution, and merger on job mobility. *American Journal of Sociology* 100:104-152.
Hornung S, Rousseau DM, Glaser J, Angerer P, Weigl M (2010) Beyond top-down and bottom-up work redesign: Customizing job content through idiosyncratic deals. *Journal of*

Organizational Behavior 31(2.3):187-215.
Huising R (2014) The erosion of expert control through censure episodes. *Organization Science* 25(6):1633-1661.
--- (2015) To hive or to hold? Producing professional authority through scut work. *Administrative Science Quarterly* 60(2):263-299.
Judge TA, Cable DM, Higgins CA (2001) The employment interview: A review of recent research and recommendations for future research. *Human resource management review* 10(4):383-406.
Kellogg KC (2010) Operating room: Relational spaces and micro-institutional change in surgery. In *American Sociological Review*.
--- (2011) Hot lights and cold steel: Cultural and political toolkits for practice change in surgery. *Organization Science* 22(2):482.502.
Kraatz MS, Moore JH (2002) Executive migration and institutional change. *Academy of Management journal* 45(1):120-143.
Kulik CT (2004) *Human resources for the non-HR manager* (Lawrence Erlbaum).
Levesque LL (2005) Opportunistic hiring and employee fit. *Human Resource Management* 44(3):301.317.
Lounsbury M (2001) Institutional sources of practice variation: Staffing college and university recycling programs. *Administrative Science Quarterly* 46:29-56.
Merton RK (1987) Three fragments from a sociologist's notebooks: Establishing the phenomenon, specified ignorance, and strategic research materials. *Annual review of sociology* 13(1):1.29.
Miner AS (1987) Idiosyncratic jobs in formalized organizations. *Administrative Science Quarterly* 32(3):327-351.
--- (1990) Structural evolution through idiosyncratic jobs: The potential for unplanned learning. *Organization Science* 1(2):195-210.
Miner AS, Akinsamni OB (2016) Idiosyncratic jobs, organizational transformation, and career mobility. *Research in the Sociology of Organizations* 47:61.101.
Miner AS, Estler SE (1985) Accrual mobility: Job mobility in higher education through responsibility accrual. *Journal of Higher Education* 56:121.143.
Miner AS, Bassoff P, Moorman C (2001) Organizational improvisation and learning: A field study. *Administrative Science Quarterly.* 46(2):304-337.
Morgeson FP, Humphrey SE (2006) The Work Design Questionnaire (WDQ): Developing and validating a comprehensive measure for assessing job design and the nature of work. *Journal of Applied Psychology* 91(6):1321.1339.
Okhuysen GA, Bechky BA (2009) Coordination in organizations: An integrative perspective. *Academy of Management Annals* 3:463-502.
Pentland BT (1992) Organizing moves in software support hot lines. *Administrative Science Quarterly* 37:527-548.
Petersen T, Saporta I, Seidel MDL (2000) Offering a job: Meritocracy and social networks. *American Journal of Sociology* 106(3):763-816.
Pratt MG, Kaplan S, Whittington R (2019) Editorial Essay: The Tumult over Transparency: Decoupling Transparency from Replication in Establishing Trustworthy Qualitative Research. *Administrative Science Quarterly*:0001839219887663.
Reskin BF, Roos PA (1990) *Job Queues, Gender Queues: Explaining Women's Inroads into Male Occupations* (Temple University Press, Philadelphia).

Rivera LA (2012) Hiring as cultural matching the case of elite professional service firms. *American Sociological Review* 77(6):999-1022.
--- (2015) Go with Your Gut: Emotion and Evaluation in Job Interviews1. *American journal of sociology* 120(5):1339-1389.
Rosenkopf L, Almeida P (2003) Overcoming Local Search through Alliances and Mobility *Management Science* 49:751.766.
Rousseau DM (2005) *Idiosyncratic deals: When workers bargain for themselves* (M.E. Sharpe, New York).
Rousseau DM, Ho VT, Greenberg J (2006) I-deals: Idiosyncratic terms in employment relationships. *Academy of Management Review* 31(4):977-994.
Rura-Polley T, Miner AS (2001) The relative standing of routines: Some jobs are more equal than others. Augier M, March JG, eds. *The Economics of Choice, Change and Organizations: Essays in Memory of Richard M. Cyert* (Edward Elger, Cheltenham).
Rynes SL, Giluk TL, Brown KG (2007) The very separate worlds of academic and practitioner periodicals in human resource management: Implications for evidence-based management. *Academy of Management Journal* 50(5):987-1008.
Schmidt FL, Hunter JE (1998) The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years of research findings. *Psychological Bulletin* 124(2):262.274.
Siggelkow N (2007) Persuasion with case studies. *Academy of Management Journal* 50(1):20-24.
Song J, Almeida P, Wu G (2003) Learning–by–Hiring: When is mobility more likely to facilitate interfirm knowledge transfer? *Management science* 49(4):351.365.
Sorenson O, Dahl MS, Canales R, Burton MD (2021) Do Startup Employees Earn More in the Long Run? *Organization Science*.
Stinchcombe AL (1965) Social structure and organizations. March J, ed. *Handbook of Organizations.* (Rand-McNally, Chicago), 142.193.
Tan V (2015) Using negotiated joining to construct and fill open-ended roles in elite culinary groups. *Administrative Science Quarterly* 60(1):103-132.
Wrzesniewski A, Dutton JE (2001) Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review* 26(2):179-201.
Yang T, Aldrich HE (2017) "The liability of newness" revisited: Theoretical restatement and empirical testing in emergent organizations. *Social Science Research* 63:36-53.

Table 1: Interviews by Role

Category	Sample Roles	Single Interview	Multiple Interviews
Employees in Startups/ Startup Job Seekers	Developers Customer Support Marketing Sales	29	6
Founders/Hiring Managers	CEO CTO Founder HR Manager	13	6
Experts	VCs Recruiters Former Entrepreneurs	12	0

Table 2: Organizations with multiple interviews over time

Organization	Roles (number of interviews)	Timespan
Organization 1	Founder 1 (8) Founder 2 (1)	2 years
Organization 2	Founder 1 (5) Founder 2 (1) Employee (1)	1 year
Organization 3	Founder (2) Employee 1 (1) Employee 2 (1) Observations at film unveiling Observations of hiring presentations	1 year +
Organization 4	Employee (1) Hiring Manager (2)	1 month
Organization 5	Employee/Hiring Manager (1) Hiring Manager (1) Employee 1(1) Employee 2(1) Observation at open house	4 months
Organization 6	Hiring Manager (2)	3 months
Organization 7	Hiring Manager 1(1) Hiring Manager 2 (1)	3 months

Table 3: Data Sources at Sage

Data Source	Role (# of people interviewed in role)
Interviews	CEO CTO Head of Research Developers (12) Analysts (12) Business Intern (2) Data Entry Operators (9) Office Manager Senior Site Reliability Engineer Site Manager Advisor
Observations	3 weeks in main office 1 week in satellite office team meetings face-to-face interviews and debriefs
Documents	Job postings Hiring materials Meeting slide decks Email chains related to hiring

Table 4: Data Sources for Jobs Discussed in Paper

Job Title	Interview/s with Job Incumbent/ Candidate	Interview/s with Hiring Manager (CEO, etc)	Multiple Interviews Over Time	Obser-vations	Candidate/ Incumbent LinkedIn Profile	Company LinkedIn Profile	Company Website
Job 1.1: Marketing Director	✓	✓	✓	✓	✓		
Job 1.2: Business Development	✓				✓	✓	✓
Job 1.3: Chief Finance Officer	✓	✓	✓				
Job 1.4: Human Resources Director	✓		✓		✓	✓	✓
Job 1.5: Position Never Defined	✓				✓		
Job 1.6: Customer Success Manager	✓				✓		
Job 1.7: Biomedical Engineer	✓				✓		
Job 1.8: Senior Advisor	✓	✓	✓	✓	✓		
Job 2.1: Sales	✓				✓		
Job 2.2: Chief Marketing Officer		✓					
Job 2.3: Personal Assistant	✓	✓	✓	✓	✓		
Job 2.4: Data Entry Operator	✓	✓	✓	✓	✓		
Job 2.5: Campaign Manager	✓	✓	✓		✓	✓	✓
Job 2.6: Growth Hacker		✓					
Job 2.7: Junior-Level Developer		✓			✓	✓	
Job 2.8: Information Technology Expert		✓					
Job 2.9: Vice President of Marketing		✓					
Job 2.10: Content Expert		✓	✓	✓			
Job 2.11: Project Manager		✓	✓	✓			
Job 2.12: Full-Stack Developer	✓	✓	✓	✓	✓	✓	

Table 5: Descriptions of Additional Jobs on Evolutionary Pathways

The Pathway of Anticipated Evolution
Job 1.5: Job Never Defined. Beverly said that she attended a start-up recruitment fair where she talked to the founders of a software company. She said that in their conversation: "[The founder] was just asking about my education background and experience that I have been through the projects I was working on and she was really interested…" Later they called to arrange a face-to-face meeting at their offices. Beverly said "[The founder] never said to me which position actually she's thinking about me for." She said that she told them that she was interested in a junior project manager position which she saw as a natural progression from the work she had been doing as a senior information technology consultant. The founder sent her an email explaining that she does not have enough experience for the job but never offered a description of what that job was or what skills were needed. She never learned whether the job was filled or what form it took.
Job 1.6: Customer Success Manager. Mona said that she was a Customer Success Coordinator when she received a LinkedIn message: "The message was from… [the Hiring Manager] for the company and they're like, hey, looking through your LinkedIn, saw that this position we currently have, this position open, if you are interested, here's the link to learn more about it and e-mail me back to get some more information." She said that she clicked on the link and it "seemed interesting" and then emailed them. She got on a call back from the Director of Marketing and Head of Design: "They just kind of explained a bit about the job, what the role was and if I had any questions… It's like 'why are you interested, what are some of the things that, what's your experience? Why do you want to leave your current job?'" She later had in-person interview with the Director of Marketing and Head of Design during which they asked more questions: "And so they asked me kind of like what would your ideas be, have you had a chance to look at stuff and a lot of them were really close to what like for example we have like knowledge basis and tutorials and just kind of like do you have any ideas like, are you comfortable with these things, which happened to work out, yeah that was something." The final interview was in person with the Chief Executive Officer. Overall, she said that they were looking for ability to handle distant clients and technological and marketing knowledge, but the job did not appear to be fully defined: That appealed to her: "One thing that I really liked is that they're like looking for someone to come in and kind of takeover the position…. We want to start from scratch. We don't have anything setup…We don't really have anyone whose doing this…We're open to suggestions…And that is something that was really enticing because that was something that I was struggling a bit with my own company." They eventually sent her an email, offering the job, describing the outline of the position based on what they learned in interviews and she accepted.
Job 1.7: Biomedical Engineer. Ali said that a friend referred him to the founders of an early-stage start-up that was doing tethered robotics. The company had only two founders and one engineer. The friend had said they were looking for a director of engineering and wanted someone to design and build their robotic system as well as figure out manufacturing: "They were looking for someone to be their director of engineering, and so they were asking someone to design and build their robotic system as well as figure out the manufacturing and the whole shebang. And so, it was very much so, they talked like these guys were very business-oriented and did not really know what the tech-side was. So, they were looking for someone to build their first prototype." In an initial phone screen, Ali said that it seemed like the interviewer had not read his resume: "Quite frankly, it felt like they didn't read my resume. So, they asked me, "'Tell me about yourself. What have you done in the past?" That kind of stuff and then they would ask questions based on what I had said. It felt like they had prepared anything based off of my resume… I think they were looking for just key words like computer vision and robotics, both of which I have done work on." Ali said he never saw a description for the job and said he was not sure whether they had anything predetermined in mind. He said that the position was different from what he expected going in: "Once I interviewed it became clear that it was a higher position; director of engineering." Ali described the founders as knowing little about the technical side and looking for someone to build their first prototype without being clear about what they wanted in

the position. The second interview was a “meet-and-greet” over a coffee with the founders. He said that they tried to sell him the big vision without providing concrete steps of how they wanted to get there. Ali said that he eventually lost interest in what he described as a “vaguely” defined job: “Essentially I just wasn’t interested after grilling them a little bit before specifics.” He did not accept the job which had been changed to Biomedical Engineer by the end of the process.
Job 1.8: Advisor. Soon after leaving a corporate governance job in a big company, Darren attended a governance conference. There, he ran into a friend who told him he might be interested in working for Sage and introduced Darren to Sage’s CEO. Darren described their initial conversations as being about the company needs and how Darren could help. Through the course of several conversations the definition of the work evolved: “At the start, it seemed that it was just an arm’s length. You know, we’ll give you a few projects and if you can help us out with these that’s great. And then very rapidly, it turned into actually we’d like you in the office.” Before he was hired, the nature of Sage’s business shifted, and the organization did not have anyone other than Darren with new skills needed: “The nature of what the business is trying to do is shifting a little bit and therefore, you know, I think there’s more clarity now… And that is a skill set that the organization doesn’t have otherwise.” This provided more clarity around what his role would be and the areas where he could contribute.
The Pathway of Accidental Evolution
Job 2.8: Information Technology Expert. The company wanted someone to come and work on the information technology side under the Vice President of Information Technology. The job was initially defined as a junior-level information technology position. Andrew, the hiring manager, explained that “When I began the search, I was looking for a candidate that had a career in IT and had done that directly before. And as time passed, I ended up going a slightly different direction... [I was] back in contact with somebody who I'd worked with fifteen years before... He was the Vice President of [well-known company] and in in that role, he had managed all of the implementation of our systems across most of the service providers around the world. So, you know, my orientation was completely different of him as a professional ... so you know, things came together, and I was able to bring him into the company.” Amir accepted the job and described himself as satisfied with it.
Job 2.9: Vice President of Marketing. The founders of Rest-Up attended a startup fair to find an intermediate developer. While there, Corey, came to their booth. Catherine, a founder, asked for his LinkedIn profile and told him that she would like to meet for coffee. At that time, they had not yet decided that they wanted to hire a fulltime marketing vice president. They were considering bringing in consulting help or figuring out how to improve things themselves. After the event, Catherine and Corey met for coffee and Corey talked about his previous experiences. He had left his previous company as Vice President of Marketing after nine years of wearing different hats. Corey explained that he left because the company got too big. What was interesting about Corey to Rest-Up was that he could potentially transfer what he did previously to them. They also asked Corey how he would start with the inbound marketing team and in his response, he hit different points of challenge that they knew about. They invited him for another meeting where they talked about the culture. The process took almost three weeks. Once he started, they gave him a lot of freedom and told him “This is your department do what you need to do.”’
Job 2.12: Full-Stack Developer. Rafael applied for a front-end developer position through a website specific for developer. He received an email back from the company, and they had a first screening interview. He then took a coding test and one week later was asked to do another interview over Google Meets. The interview lasted 90 minutes and included a live coding challenge. In the interviews and tests, he said they were assessing his technical stack. Three weeks later they gave him an offer, but it was for a full-stack developer position: “I was applying for a front-end job because I worked there for two years…Well, the offer came as a full stack. They asked me if I was okay in working with Python. I said absolutely.” Three months later he said that he was happy with the job.

*Jobs 1.1 through 1.4, 2.1 through 2.7, 2.10 and 2.11 are described in the text

Table 6: Changes by Job Evolution in the Midst of Hiring

	Tasks changed	Title changed	Level changed	Initial job abandoned	New job posted & filled
The Pathway of the Anticipated Evolution					
Job 1.1: Marketing Director	✓	✓			
Job 1.2: Business Development	✓	✓			
Job 1.3: Chief Finance Officer	✓	✓			
Job 1.4: Human Resources Director	✓	✓			
Job 1.5: Position Never Defined	✓				
Job 1.6: Customer Success Manager	✓	✓			
Job 1.7: Biomedical Engineer		✓	✓		
Job 1.8: Senior Advisor	✓	✓			
The Pathway of Accidental Evolution					
Job 2.1: Sales	✓	✓	✓	✓	
Job 2.2: Chief Marketing Officer	✓	✓	✓	✓	✓
Job 2.3: Office Manager	✓	✓		✓	✓
Job 2.4: Data Entry Operator		✓		✓	✓
Job 2.5: Campaign Manager	✓	✓			✓
Job 2.6: Growth Hacker	✓	✓			
Job 2.7: Junior-Level Developer		✓	✓	✓	✓
Job 2.8: Information Technology Expert	✓	✓	✓		
Job 2.9: Vice President of Marketing	✓	✓			
Job 2.10: Content Expert				✓	
Job 2.11: Project Manager				✓	
Job 2.12: Full-Stack Developer	✓	✓			✓

Table 7: Longer-Term Consequences

Consequences for Job Incumbent	Structural Consequences for Job & Organization
The Pathway of Anticipated Evolution	
Job 1.1: Marketing Director	
He remained in the job for at least 10 months and then left. He no longer lists his job at VooFund on his LinkedIn page. He was subsequently hired as an event organizer at a tech forum.	The job continued to evolve. For instance, Kristopher took on product direction and the task of making a promotional film. He hired a junior marketing person who took on tasks that would have been allocated to the second job that was defined through the hiring exercise. He described the effects of the work he was doing: "Things are going on since I've joined the company, you can see like really an up pick in traffic and customer satisfaction and things are going good."
Job 1.2: Business Development	
He was in this role for 7 months and then left the company and became a business consultant and at the same time started his own business.	Amos expected and did take on a range of responsibilities for finance, accounts, sales, and fundraising, as well as his business development and marketing responsibilities. SensoMed is still alive as it enters its 6th year of operation. Company's LinkedIn page and website show that they still have very few employees and they do not have an employee dedicated to business development anymore.
Job 1.3: Chief Finance Officer	
He left the organization within a year to work in finance.	As described in the text, the job evolved with Jonah taking on additional tasks, including setting up some infrastructure, searching for spaces investigating immigration procedures. Within a year, the CEO demanded that others in the management team invest $1 million of their own money. This effectively dissolved Cadible.
Job 1.4: Human Resources Director	
She remained in the position for over a year and left when her husband relocated. She came back to the organization once again after 3 years as an HR consultant and stayed there for a couple of months before taking her maternity leave.	The job evolved with Joline also taking on the development of performance systems. After Joline left, the company hired a full-time HR advisor who was promoted to the 'people and culture director' after 2 years.
Job 1.6: Customer Success Manager	
According to her LinkedIn profile, Mona remained in the job for a total of 10 months. She left and took a job as a social media manager at another company shortly before the company died.	Five weeks into the job, Mona described herself as being "surprised in a good way [by the job]….. It's just how much freedom comes with [the job] and just how much they're like yes, go what you think is best."
Job 1.8: Senior Advisor	
Darren's LinkedIn profile lists Sage as an independent project rather than as a job. He kept working with them as they went through a strategic pivot.	The job continued to evolve; for instance, he took on a project on mapping corporate culture based on governance data. The CTO said that they benefitted from his services: "Darren has been an

	asset for us ever since he joined...With his guidance we were able to address important challenges like client acquisition...” The position remained stable until the organization dissolved.
The Pathway of Accidental Evolution	
Job 2.1: Sales	
Todd was dismissed after nine months; he joined a computer software company later in the role of Account Executive and has been working there for more than three years now.	There was ongoing conflict between Todd and the Sales Director. He was not able to generate leads while in the job and attributed his difficulty, in part, to the structure of the job and the conflicts with the Sales Director. The position was not filled after his departure.
Job 2.2: Chief Marketing Officer	
Luke spent the first few months drawing up organization charts that brought many people and functions under him. Eventually Luke was asked to leave because he was not doing his marketing job.	Following Luke’s hiring, the company spent two years in a very disruptive state. The Chief Technology Officer also left in the wake of this protracted territorial conflict. Luke was not immediately replaced
Job 2.3: Office Manager	
Mary stayed in the job for more than 2 years, up until the organization dissolved. She was satisfied with the job and her working environment: “I love it here; I love my colleagues and our bond …. we are all around the same age and enjoy spending time together inside and outside the office, like going for a drink on weekends...”	Eventually, Mary not only took care of the administration needs but also provided some help with more administrative aspects of HR and recruitment. She also coordinated two office moves and the eventual closing of the main office. The position itself remained in place until the organization dissolved.
Job 2.4: Data Entry Operator	
Over time, the organization hired 24 people into the DEO role. One left because of performance issues. Several left voluntarily because of illness, to return home or to pursue other opportunities. Two were promoted into analyst roles. Others remained in the organization and consistently performed to expectations.	The content of the job remained stable up until the organization’s folding: gathering and entering data. The organization developed more sophisticated training materials including videos and workshops.
Job 2.5: Campaign Manager	
Malorie remained in the position for fourteen months and was promoted to the role of ‘Manager Insights’ which she left three months later for a job as a customer success manager at a bank.	After Malorie left, Naturela retained the job of Manager Insights and hired someone who remained there after almost two years.
Job 2.6: Growth Hacker	
Tom remained in the job and took on tasks related to brand marketing, public relations, and customer service and retention.	The tasks in the job continued to evolve but position remained stable.
Job 2.7: Junior-level Developer	
James has been working for the company for 3 years now.	The company website shows James still in this position and three additional developers responsible for similar tasks with the same title.
Job 2.8: Information Technology Expert	
Amir was still with the company 2 years later.	The job has evolved because, as explained by Andrew, having someone with Amir’s level of

	experience “enabled the VP of IT to have somebody who she could really rely on…. Like, I [Andrew] would have had to spend more time on inventory relations, and she would've had to spend more dedicated time and not be able to attend to other things.... having somebody with that level of experience enabled us to be able to achieve a lot more than we would have on our own”.
Job 2.9: Vice President of Marketing	
He left the company within eight months.	The founders were disappointed by Corey’s performance. One of them, Catherine, said that maybe they gave him too much freedom, because Corey comes in late and leaves early and goes out for long coffee breaks and he is hardly around and things were moving more slowly than expected. The position was not filled until 2 years after Corey’s departure.
Job 2.10: Content Expert	
They created two lead positions which were filled internally. The leads were largely responsible for managing the workflow but were not content experts. Both resigned within months of the promotion and the positions were never filled.	The job was abandoned with the tasks being performed by other analysts and the head of research. They later created a senior analyst role and the first person in the role took on some of the tasks the content expert would have done. She left the organization to return home. Eventually two other analysts were promoted to the seniors and took on similar tasks until the organization folded.
Job 2.11: Project Manager	
No one was ever hired into the project manager role. Over a year later someone was hired into a product manager role but was gone within a month of hiring.	The job was abandoned with the tasks being performed by site leads and analysts. After more than a year, in the light of the new strategy of the organization, they advertised for a related job with the title of product manager. The CEO explained that the job was created to coordinate between sales, research, and development and would create new and expand the current clientele.
Job 2.12: Full-Stack Developer	
Nearly 14 months into his tenure there, Rafael received an unsolicited job offer from another organization, but he was promoted and given a pay increase and stayed at Sage. This happened just a week before Sage closed shop. After that, he was hired again as a full-stack developer in a computer software company.	Job remained the same so long as Rafael was in the company. Company was satisfied with his performance and that of his colleagues up until the end.

***We have no information on the long-term consequences for Jobs 1.5 and 1.7**

Table 8: Summary of Longer-Term Consequences of Job Evolution in the Midst of Hiring

	Continued Evolution	**Incumbent exit < year + job abandoned**	**Conflict & Incumbent Exit**	**Job & Incumbent Stability**
Pathway of Anticipated Evolution				
Job 1.1: Marketing Director	✓	✓		
Job 1.2: Business Development	✓	✓		
Job 1.3: Chief Finance Officer	✓	✓		
Job 1.4: Human Resources Director	✓			✓
Job 1.5: Position Never Defined				
Job 1.6: Customer Success Manager	✓	✓		
Job 1.7: Biomedical Engineer				
Job 1.8: Senior Advisor	✓			✓
Pathway of Accidental Evolution				
Job 2.1: Sales		✓	✓	
Job 2.2: Chief Marketing Officer	✓	✓	✓	
Job 2.3: Office Manager	✓			✓
Job 2.4: Data Entry Operator				✓
Job 2.5: Campaign Manager				✓
Job 2.6: Growth Hacker	✓			✓
Job 2.7: Junior-Level Developer				✓
Job 2.8: Information Technology Expert	✓			✓
Job 2.9: Vice President of Marketing	✓	✓	✓	
Job 2.10: Content Expert				✓
Job 2.11: Project Manager				✓
Job 2.12: Full-Stack Developer				✓

Dark shading indicates that the job was abandoned and/or no information was available