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By

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Committee in charge:

Professor Michael Burawoy, Chair
Professor Neil Fligstein
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Professor Calvin Morrill
Professor Leslie Salzinger

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Abstract

Working Algorithms: Software Automation and the Future of Work

by

Benjamin J. Shestakofsky

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While some argue that the rise of software automation threatens workers with obsolescence, others assert that new complementarities between humans and software systems are likely to emerge. This study draws on 19 months of participant-observation research at a software firm to investigate how relations between workers and technology evolved over three phases of the company's development.

The empirical chapters proceed in chronological order, tracking the temporal trajectory of the firm. The company's strategic direction was guided by its pursuit of venture capital. Executives' priorities frequently shifted in response to investors' expectations. Each priority generated new problems that I call "lags" to denote how managers' vision outpaced technological and organizational realities. At each stage of the company's development, managers deployed particular types of labor, located in San Francisco, the Philippines, and Las Vegas, to address these lags. As they labored in and around AllDone's digital machinery, workers at each site affixed particular meanings to their labor and their place within the company.

I find two forms of human-software complementarity: computational labor that supports or stands in for software algorithms, and emotional labor aimed at helping users adapt to software systems. Instead of perfecting software algorithms that would progressively push people out of the production process, managers continually reconfigured assemblages of software and human helpers, developing new forms of organization with a dynamic relation to technology. The findings suggest how the dynamism of the organizations in which software algorithms are produced and implemented will contribute to labor's enduring relevance in the digital age.

Table of Contents

Zachary Levenson, Thomas Peng, Josh Seim, and Shelly Steward. There is nothing I looked forward to more during my time at Berkeley than our bi-weekly meetings.

I couldn't have asked for a more thoughtful, generous, and engaged dissertation committee. I am grateful that Leslie Salzinger took an interest in this project and offered intellectual space in which to think more broadly about the relationship between affect and economic activity. Our conversations have opened new vistas for me that I am still just beginning to explore.

Every time I visited Cal Morrill's office, I would inevitably emerge with new ideas and renewed excitement about this project. Cal helped me forge deeper connections between my work and a variety of intellectual traditions. Additionally, his course on qualitative field methods prepared me to think rigorously about the methodological decisions I made in the field. His influence has been indelibly stamped on my own teaching of qualitative methods.

During my second semester at Berkeley, I developed a proposal to study startup workers in Kim Voss' course on the sociology of work. Since then, Kim has encouraged me to think broadly about this project without losing touch with the core ideas and interests that have motivated me from the beginning. In conversations about work, life, and politics, Kim gave me a venue in which to develop and articulate who I am as a scholar and a teacher. I am fortunate to have benefitted for so many years from her influence and support.

This dissertation also benefitted greatly from Neil Fligstein's wide-ranging thought and generosity. Neil has a unique talent for considering a project from seemingly every possible angle. Over the years, he has opened my eyes to theoretical frameworks and reinterpretations of data that have become central to my own thinking. With enthusiasm, encouragement, and candor, Neil has helped me experiment with new approaches while staying focused on the big picture.

And then there is Michael Burawoy. I'm sure he would be chagrined to hear how profoundly he has shaped my intellectual development. Since my earliest days at Berkeley, he has often seemed to understand my interests and capabilities better than I understood them myself. I am fortunate to have studied theory, method, and teaching—as well as the intersections between them all—alongside Michael and the many other graduate students who he convenes to collaborate in intellectual enterprises large and small. Michael will forever stand as the benchmark against whom I measure my own teaching and advising, and in comparison with whom I will inevitably fall short. His mentorship has been a gift for which I am deeply grateful.

I met Isheh Beck just as both of our dissertations were beginning to take shape. Now we find ourselves embarking on a new journey together. Isheh's strength and support have made everything possible. I can't wait to find out how the next chapter begins.

Preface

In 2009, a small group of recent college graduates living and working in a townhouse in San Francisco launched AllDone, a digital marketplace for local services.[1] Just as Uber was beginning to "disrupt" the transportation industry and Airbnb was starting to change how travelers choose a place to stay, AllDone would use technology to make it easier than ever before for consumers to find and hire someone to do a job for them—from wedding photographers to plumbers to house cleaners and math tutors. AllDone aimed to create more efficient markets by reducing transaction costs for two distinct types of users: buyers (consumers) and sellers (local service providers). Instead of combing through directories or asking friends for recommendations, buyers could use AllDone to receive custom quotes from trusted sellers. If AllDone succeeded in its mission to become "Amazon for local services," it would transform dozens of trades accounting for hundreds of billions of dollars of consumer activity every year.

My first moments in AllDone's San Francisco loft office in early 2012 appeared to confirm the triumph of technology. I was a doctoral student eager to examine Silicon Valley's second dot-com boom from the vantage point of its young, high-tech workforce. I sat on a couch in a corner of the office while I waited for my meeting with Martin, one of the company's co-founders. Gazing around the room, I saw a handful of young men in hoodies and t-shirts perched in front of enormous computer monitors. As I jotted in my notebook, the office was "dead quiet aside from the tapping of computer keyboards and footsteps of people walking to the kitchen to get drinks." The silence seemed to speak volumes about the power of software to reformat the social world.

Yet when I spoke with Martin, he told me that what I had seen in the office was just one half of the "magic" that made AllDone run. Martin attributed AllDone's competitive advantage to how the firm combined its software systems with an army of "remote," work-from-home contractors that would soon total 200 in the Philippines and 10 in the Las Vegas area. Shortly after our meeting, Martin offered me a position as an intern at AllDone, where I would conduct ethnographic research while working as a full-time employee. What I observed during my 19-month stint with the company upended many of my assumptions about the algorithmic revolution transforming our economy. At AllDone, innovation was paired with routinization, as efficient high-tech processes relied on repetitive hand work performed by a distributed workforce that managers dubbed AllDone's "human machine." Cold calculation on the part of the firm triggered heated emotions in its user base, requiring AllDone to respond to its customers' concerns with a human touch. What follows is the story of the labor behind the screens of AllDone's software systems—a story of organizing at the interface between people and machines that offers lessons about the future of work and employment in the age of the algorithm.

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[1] The company's name and the names of individuals have been changed.

Introduction: Work, Technology, and Organization in the Digital Age

"Computers and automation have captured man's imagination. That is to say, like the psychiatrist's ink blot, they serve the imagination as symbols for all that is mysterious, potential, portentous. For when man is faced with ambiguity, with complex shadows he only partly understands, he rejects that ambiguity and reads meanings into the shadows. And when he lacks the knowledge and technical means to find the real meanings of the shadows, he reads them into the meanings in his own heart and mind, uses them to give external shape to his private hopes and fears. So the ambiguous stimulus, the ink blot, becomes a mirror. When man describes it, he depicts not some external reality, but himself."

- Herbert Simon, *The Shape of Automation for Men and Management* (1965)

Is the human worker doomed to obsolescence? In recent years, social scientists, technologists, and journalists have sounded the alarm. Many claim that computers powered by artificial intelligence will increasingly replace the human element of production across diverse sectors of the economy, leaving mass joblessness in their wake (Sachs and Kotlikoff 2012; Brynjolfsson and McAfee 2014; Elliott 2014; Benzell et al. 2015; Ford 2015; Kaplan 2015; Srnicek and Williams 2015; West 2015; Frey and Osborne 2017). These theorists of *discontinuity* argue that the relationship between work and technology is poised to undergo a radical shift, as the emergence of "big data" and "machine learning" techniques in software development help programmers overcome longstanding barriers to automating tasks.

Until recently, computers were largely limited to performing "codified, repetitive information-processing tasks" (Autor 2015b:247). Programmers developed software capable of simulating human cognition by instructing it to "follow precise, well-understood procedures"—for example, "the mathematical calculations involved in simple bookkeeping [or] the retrieving, sorting, and storing of structured information typical of clerical work" (Autor 2015a:11). However, there remain many tasks that cannot be simulated in this manner because humans cannot articulate the exact "rules" necessary for accomplishing them. Following Michael Polanyi's (1966) statement that "[w]e know more than we can tell," Autor (2014:136) observes that "the tasks that have proved most vexing to automate are those demanding flexibility, judgment and common sense—skills that we understand only tacitly." For instance, most untrained humans could visually identify whether or not an object is a chair with a high degree of accuracy by reasoning about what the object is "for." It is far more difficult, however, to program a computer to consistently succeed at the same task because it is difficult to define a specific set of attributes that a chair will possess: some have four legs, while some have none; some have a back, arms, or wheels, while others do not (Autor 2015a).

The emergence of machine learning techniques allows software engineers to simulate humans' performance of tasks based on tacit knowledge. Rather than telling software precisely how to perform certain operations, machine learning allows computers to infer patterns approximating tacit rules from massive sets of human-generated "training" data (Alpaydin 2014; Pratt 2015). Imagine again the task of visually identifying a chair. Software engineers could "feed" their program a vast number of human-completed operations (i.e. thousands of images marked "chair" or "not chair"), and the software would use statistical modeling akin to inductive logic, rather than human-like deductive reasoning, to "learn" how to perform the operation (Autor 2015a).

Developments in machine learning benefit from the simultaneous advent of big data (Mayer-Schönberger and Cukier 2013). Today, online platforms and Internet-connected devices

gather and aggregate massive amounts of digital information about our identities, interests, behaviors, and environments. By mobilizing ever-larger datasets to train and refine software algorithms, software engineers can develop computer programs capable of learning to do things that in the past only trained humans could handle.

Software engineers are already using machine learning to teach computers to perform tasks across a variety of occupational domains that previously required tacit knowledge and complex human cognition. Discontinuity theorists point to an array of examples: The rapid development of self-driving cars; speech recognition software capable of understanding complex communication (like the technology behind the iPhone's Siri) and of detecting human emotions and facial expressions; increasingly accurate algorithmic language translation services; the Watson computer that in 2011 beat *Jeopardy!* champions at their own game; and continued advancements in factory robotics (Brynjolfsson and McAfee 2014; Ford 2015; Tufecki 2015; Lewis-Kraus 2016). According to one widely cited estimate, 47 percent of U.S. employment is at risk of computerization within the next 10-20 years (Frey and Osborne 2017). Indeed, software algorithms are already driving cars, writing news stories, trading stocks, and diagnosing rare diseases. In light of these developments, discontinuity theorists predict that humanity is approaching the precipice of a jobless economy, and that societies that fail to adapt to a future without work will be beset by widespread human misery.

Fears and Fantasies of Technological Change

Throughout the history of industrial capitalism, technology has been an "ink blot"—or, more recently, a "black box"—onto which people project their hopes and fears about how we work and how we live. Karl Marx (1978), one of capitalism's earliest and most prominent critics, viewed advances in production machinery as both a cause of human suffering and a precondition of humanity's liberation. On the one hand, technology simplified the labor process, and in so doing reduced demand for workers, increased competition among them, and degraded the experience of work. On the other hand, if capitalism's advanced technological apparatus could be harnessed by workers rather than capitalists, every labor-saving innovation would diminish the aggregate amount of work that had to be performed to reproduce society, leading to the progressive reduction of the workday. To Marx, technology was simultaneously a symptom of capitalist competition, a cause of workers' immiseration, and a means for transcending alienating and exploitative wage-labor relations. In the right hands, technology could provide a future free from scarcity and compulsion in which individuals could develop their talents and discover new sources of meaning together.

Just as technological change has continued unabated since Marx's time, so too have utopian and dystopian interpretations. Just before the Great Depression, economist John Maynard Keynes (1930) envisioned that within a century, advanced industrial technologies would enable workers to enjoy a 15-hour workweek that sustained a high standard of living. In the midst of postwar prosperity, a 1961 *TIME* magazine story warned of a coming crisis for "The Automation Jobless" (Autor 2015a). By the 1990s, it was improvements in information and communications technologies that heralded "The End of Work" (Rifkin 1995; see also Aronowitz and DiFazio 1994; Noble 1995).

In spite of monumental scientific achievements, predictions that technology would progressively reduce aggregate demand for labor have yet to come to pass. Why, then, have so

many intelligent researchers and critics been so wrong about the effects of technological change? And is it possible that this time is different—that there is something fundamentally new about advancements in software automation that will finally make our fears or fantasies of technological unemployment a reality?

Work and Technology in Historical Perspective

Past predictions of the end of work have been misguided largely insofar as they have failed to grasp the complex and dynamic relationship between work and technology.[2] While in some cases new technologies have indeed *substituted* for workers, they have also consistently created new *complementarities* between people and machines (Autor 2015a). Drawing from this essential insight, economists and economic historians commonly cite the historical recurrence of three processes that mitigate against full automation: the creation new work functions, the rise of new industries, and the elasticity of labor's price.

First, observers have found that even when technological innovations replace workers, complementary jobs often emerge in and around new machinery. Supposedly "automated" equipment often does not function autonomously (Sheridan and Parasuraman 2005; Mindell 2015). Rather than fully replacing human workers, automation can instead create new and sometimes unanticipated interactions between humans and mechanized systems.

Historian Raphael Samuel (1977) demonstrated that the industrial revolution did not, as is commonly assumed, simply replace tasks once performed by hand with more efficient machinery. New technologies instead "created a whole new world of labour-intensive jobs" (p. 8). For example, new steam-driven fans and pumps allowed miners to reach deeper deposits of coal. But larger mines necessitated additional haulers to handle more coal, and "longer galleries to travel…meant more roofs to prop, more roads to keep up, more rails to be laid down, while the increased use of blasting meant more hand-bored holes" (p. 21). In a variety of trades, the growth in production enabled by new machinery was predicated upon the engagement of a greater number of workers in physical labor. Capitalists often preferred to supplement machines with human workers rather than relying on equipment alone because workers could be less expensive, often produced higher-quality products, were more functionally and numerically flexible, and more easily replaced. In addition to jobs on factory floors, mechanics were hired to tend to new machines, while supervisors, accountants, and administrators emerged to manage large-scale enterprises. Technological change had indeed ushered in an era of unprecedented industrial expansion. However, this growth was driven not by the elimination of human labor, but rather by how the application of innovative technologies expanded the division of labor and created a superabundance of low-cost workers.

Researchers observed similar dynamics as new technologies made their way onto factory floors during the 1970s and '80s. In chemical plants, the "scientific work" performed in a modern control room characteristic of continuous production methods can go hand in hand with the "donkey work" of shoveling fertilizer, lifting and carrying massive bags, driving trucks, and maintaining machinery amid heat, thick dust, and noise (Nichols and Beynon 1977). Plant owners who invested in automated machine tools found that "[i]n reality, [numerical control]

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[2] Predictions premised on the continued strength of organized labor were also erroneous given the rise of neoliberal policy and ideology, the weakening of labor unions, and the demise of the shorter-hours movement (Cutler 2004).

machines do not run themselves…the new equipment, like the old, requires a spectrum of manual intervention and careful attention to detail" (Noble 1999[1984]:172). Even when technology replaces manual labor, it can simultaneously increase demand for machine-mediated mental work (Walker 1958; Zuboff 1988).

Second, the substitution of machines for workers in one industry can be counterbalanced by the emergence of new complementarities in others. At the dawn of the 20th century, over 40 percent of U.S. workers were employed in agriculture (Autor 2014); few could have envisioned that 100 years later, automation would have reduced farm employment to two percent of the workforce, nor that work would have moved from farms to factories to offices and retail establishments. Nor would they have foreseen how technological advancements would generate consumer demand that would spawn employment in entirely new industries and occupations, like film and television production and related fields such as advertising. Although it is easy—and often frightening—to observe how innovative technologies replace workers, it is much more difficult to predict the ways in which new machinery will be complemented by human labor. Technological displacement disrupts the lives of those whose jobs are replaced by devaluing their particular skill sets, but in the long run societies have generally prospered.[3]

Third, automation that reduces the cost of labor can result in cheaper goods, which can increase consumer demand and in turn boost demand for labor. Textile prices dropped precipitously when power looms automated an estimated 98% of the labor required to weave a yard of cloth in the 19th century. Consumer demand boomed as people bought more clothing and found new uses for inexpensive textiles, causing the number of weaving jobs to rise, with workers' remaining tasks becoming increasingly valuable (Bessen 2015b). For decades, employment in textile manufacturing grew as demand for goods outpaced advances in automation.

In sum, technological change is not always labor-saving; complex interactions within the economy can also create new jobs or change the nature of work in ways that are difficult to predict. As software algorithms become increasingly important facets of the American economy, do we find evidence that similar dynamics are at play today?

Algorithmic Labor: Is This Time Different?

Some researchers and technologists dispute discontinuity theorists' technological unemployment thesis, arguing that although software technologies will supplant some workers, they are also likely to give rise to new complementarities between human labor and digital systems (Howcroft and Taylor 2014; Autor 2015a, 2015b; Bessen 2015a, 2015b; Mindell 2015; Mokyr, Vickers, and Ziebarth 2015; Arntz, Gregory, and Zierahn 2016; Davenport and Kirby 2016; Ekbia and Nardi 2017). These *continuity* theorists predict that the complex historical dynamics of human-machine interaction will continue to hold. Economist David Autor (2015a, 2015b) has produced the most thorough and convincing case for continuity, emphasizing that those interested in the future of work must look beyond substitution to identify the limitations of computerization and the complex interactions between technology and employment. These researchers provide evidence of the continuing relevance human-machine complementarity in the digital age.

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[3] Here I refer to aggregate productivity and wealth. There remains a great deal of variation in the distribution of wealth across societies.

First, some highlight the shortcomings of much-heralded technological advances like machine learning, which may not function as autonomously as discontinuity theorists assume. Although in the popular imagination software algorithms often take on mythic qualities of near-omnipotence (Ziewitz 2016; Christin 2017), in reality developers continue to grapple with their limitations. Continuity theorists remain skeptical that computers can provide an adequate substitute for tacit knowledge in many settings. Although on average machine learning may be capable of providing accurate output in a variety of applications, machine-learning algorithms often fail in ways that are difficult to predict. For example, whereas discontinuity theorists cite the fact that a computer defeated human *Jeopardy!* champions as evidence of computing's swift progress, Autor notes how the computer made a mistake that no human player would replicate.[4] Although machine learning can offer "*good and useful approximation*[*s*]" of mental processes (Alpaydin 2014:2), results often remain inconsistent and incomplete. Furthermore, it can be difficult, if not impossible, to reverse-engineer machine-learning algorithms to explain the reasoning underlying their decisions (Burrell 2016).

In addition to these limitations of machine learning, Autor (2015a, 2015b) also cites the high cost of building and maintaining digital machinery and the difficulty of programming it to adjust to new and unpredictable conditions (Dreyfus 1992) as reasons that many employers will continue to rely on human workers to perform nonroutine work. Autor argues that although machine learning's effects will be significant, tasks requiring flexibility, situational adaptability, creativity, judgment, intuition, interpersonal interaction, and persuasion are unlikely to be fully automated anytime soon. Still, it remains difficult to predict the precise shape of new human-machine configurations: while one can spot near-daily news stories about technologies that are substituting for human labor, "[t]he offsetting effects of complementarities and rising demand in other areas are, however, far harder to identify as they occur" (Autor 2015a:26). According to this logic, breakthroughs in artificial intelligence (AI) do not signal an inflection point in the historical link between technological innovation and job creation; instead, discontinuity theorists have, like their predecessors, misjudged the temporary displacement characteristic of all transitional periods as a break with history.

Second, just as in the past, we can observe new occupations and even new industries emerging as software automation takes hold. The computer hardware, software, and telecommunications networks that are integral to today's economy are representative of these developments, as is increasing demand for workers in related fields, like cybersecurity experts. Algorithmic systems "include not just algorithms themselves, but also the computational networks in which they function, the people who design and operate them, the data and users on which they act, and the institutions that provide these services" (Gillespie 2016:25). Even many continuity theorists seem unaware of the scope of algorithmic labor. Machine-learning algorithms are powered by human labor—not only of the software engineers who design them, but often also of workers who create vast amounts of training data to teach them (Irani 2015c), which in some cases must be frequently updated to adapt to changing environments (Dreyfus 1992). Google's search algorithms are one well-known application of machine learning that relies upon the continual application of hidden human work. In addition to mobilizing records of prior user behavior to inform page rankings, Google also employs work-from-home contractors to rate the value of the search results its algorithms provide and then feeds these ratings back into

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[4] When provided the clue, "Its largest airport was named for a World War II hero; its second largest, for a World War II battle" under the category "U.S. Cities," Watson's answer was Toronto, a Canadian metropolis.

the search algorithms (Irani 2015c). The nascent technology behind self-driving cars also requires humans to painstakingly label thousands of images to train the software that "sees" roads, pedestrians, street signs, and other objects (Both 2014).[5]

Third, technological change is also altering the price of labor—and, in turn, augmenting demand for human workers. At the same time that information technologies enable new forms of automation, they also allow workers and employers around the globe to contract with one another via online labor markets like Upwork and Amazon Mechanical Turk (World Bank 2015). The availability of low-cost, online labor changes the nature of software development (Irani 2015a), allowing employers to take advantage of human workers' flexibility and adaptability in new and creative ways. Rather than developing generalized artificial intelligence designed to replace human thought, many of today's software engineers instead strive to create useful assemblages of technology and workers that can perform tasks better and more efficiently together than either could alone (Kelkar 2014).

Viewing the "AI revolution" from this perspective, the continuities with previous eras are striking. Today, as in the past, automation will replace some workers. Demand and wages are growing for some of the jobs that cannot easily be automated—for higher-educated, professionals, managers, and technicians whose work is complemented by computers (Autor 2015a). At the same time, automation is also likely to generate new production processes that expand the division of labor and create an abundance of workers with less valuable skills to complement machines (Levy and Murnane 2004). Innovation is not only labor-saving, but also gives rise to new jobs that augment technology. The major discontinuity of our time may not be that software automation is finally allowing machines to replace all workers; instead, it could arguably be that many machines are becoming "virtual," allowing complementary labor to be hidden and distributed across the globe.

The Dynamics of Continuity: Organizational Context and the Future of Work

Theories of continuity highlight the shortcomings of discontinuity, which posits that technological change will have monolithic effects on the social organization of work. Yet continuity theory, too, is beset by limitations that hamper our understanding of the future of work. Sociologists and organization scholars have long demonstrated that the organizational contexts in which new technologies are designed and implemented play an important role in shaping outcomes. Yet contemporary studies of work and technology neglect to examine the organizations in which software algorithms are invented and put into use. Continuity theorists fall short in the endeavor of prediction because they do not examine the organizational contexts in which algorithmic labor is embedded.

Researchers who have examined how workers and technological innovations interact within particular organizations have found a range of possible outcomes. Technology can replace work, transform it, or create new jobs; introducing new technologies can also lead to de-skilling or up-skilling, and at times will have no discernable effect on labor processes. What, then, determines how any given technological advancement will affect work and employment?

Rejecting a technological determinism according to which the outcomes of innovation are predetermined by scientific progress or rational considerations of efficiency, researchers have

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[5] See Appendix A in Shestakofsky (2017) for additional examples of contemporary human-software complementarities.

demonstrated that the relationship between work and technology is the product of a constellation of social relations (MacKenzie and Wajcman 1999). The effects of technology on work are thus inseparable from the social settings—more specifically, the organizational contexts—in which they interact (Barley 1986; Wajcman 1995, 2006; Liker, Haddad, and Karlin 1999; Barley and Kunda 2001). The existence of a technological object alone does not dictate if or how it will be used within an organization. Power relations between workers and managers, gender relations, managerial philosophy, and the processes through which new technologies are developed and implemented are just some of the many factors that can produce particular, contingent sociotechnical systems (Shaiken 1984; Barley 1986; Wajcman 1995; Liker et al. 1999; Noble 1999[1984]). Barley's (1986) study of the introduction of CT scanners in two hospital radiology departments is exemplary in this regard, demonstrating that the same technological innovation affected work roles and practices differently depending upon the distribution of technical expertise within each department. Such research reveals that the effects of technology on work are non-linear and complex. Understanding the conditions that give rise to variable configurations of workers and software requires examination of the organizations in which they are embedded.

Yet close examinations of the organizational contexts in which workers and software algorithms interact are absent from contemporary scholarship. At stake in current debates surrounding the future of work are the timing and extent of automation's effects across occupations and sectors of the economy. Continuity theorists convincingly illuminate the shortcomings of discontinuity by identifying the engines of job creation amid disruption and demonstrating their continued relevance today. Both approaches, however, preclude systematic investigation of continuity's form and dynamics within concrete social contexts. As in the past, contemporary theorizing about changes in the organization of economic activity has tended to precede detailed empirical studies of work (Barley and Kunda 2001; Barley 2016). This is why, despite the recent influx of interest in software automation, we still know surprisingly little about the conditions under which software systems function autonomously—and when they rely on the assistance of complementary human workers—in real-world settings.

Some inquiries into the future of work use historical comparison and deductive logic to draw attention to the limitations of automation and the job-creating potential inherent in the elasticity of demand for goods, services, and labor in capitalist economies (Autor 2015a; Bessen 2015b; Mokyr et al. 2015). Such studies identify important general dynamics of labor and technological change that help to extend our attention not only to how technology substitutes for workers, but also to how workers may complement new machinery. However, because they are pitched at a high level of abstraction, they do little to advance our understanding of the organizational conditions under which AI and human workers interact to produce particular outcomes.

Other continuity researchers project employment trends by marshaling statistical models to understand how computerization alters the division of labor between humans and machines (Autor, Levy, and Murnane 2003; Levy and Murnane 2004; Arntz et al. 2016). This research can aid us in envisioning the shifting distribution of job tasks and remuneration. But it, too, provides little insight into both the nature of the labor emerging to complement new technologies, and the trajectory of relations between workers and technological systems within concrete social settings.

A third group of continuity theorists get closer to the ground by aggregating evidence from prior research, news reports, conversations with scientists, and in-person demonstrations of cutting-edge technologies (Davenport and Kirby 2016; Ekbia and Nardi 2017). These accounts

reveal new roles for workers in and around algorithmic systems. For example, research on online "crowdworkers" who perform "micro-tasks" for employers reveals one way in which software systems can transform the organization of work (Martin et al. 2014; Barnes, Green, and de Hoyos 2015; Irani 2015; Kingsley, Gray, and Suri 2015; Gray et al. 2016). Still, these studies lack sustained, systematic observations of processes of technological design, deployment, and adoption within particular organizational environments. Consequently, they provide little insight into how technological innovations can generate contingent and unintended outcomes for the organization of work (Barley and Kunda 2001).

To advance our understanding of technological change and the future of work, researchers must transcend the debate between theorists of continuity and discontinuity. What is at stake is not simply whether or not work will disappear, but instead the nature of the uneven relationship between technology and humans in the digital age. What forms of work are emerging to support software systems? How is this complementary labor organized? And under what conditions do configurations of digital and human infrastructure change? During prior waves of technological change, studies of organizations revealed how a single technological design could interact with variable managerial directives and worker responses to produce unpredictable results (Shaiken 1984; Barley 1986; Noble 1999[1984]). Adopting a similar approach today—by entering what Marx called "the hidden abode of production"—will allow analysts of a new generation of digital technologies to investigate how organizational conditions interact with the attributes of new technologies to shape the future of work.

With their methodological pluralism, sociologists and organization scholars are uniquely positioned to present novel data capable of advancing debates surrounding the future of work. Surprisingly, however, they have devoted little attention to the ways in which software automation is transforming work and employment.[6] The discipline of sociology was founded by thinkers grappling with the social disruption wrought by industrial change. For decades, ethnographic investigations of organizations have generated important insights into the nature of work (Hodson 1998; Barley and Kunda 2001; Fine, Morrill, and Surianarain 2009). Organizational ethnographers influenced by the perspectives of social studies of science and technology have been "especially attuned to the contradictions, contingencies, and nuances of technological development" (Wajcman 2006:782). Concrete examinations of organizational activity can be particularly useful when the structure of the economy appears to be in flux—in moments of transition, scholars are more likely to rely on concepts rooted in speculative comparisons untethered from the concrete realities of work (Barley and Kunda 2001).

Today, misguided images of autonomous machines proliferate, obscuring the co-constitution of human-machine assemblages (Sheridan and Parasuraman 2005; Kelkar 2014; Mindell 2015). As MIT economist Daron Acemoglu has argued, "the next word" in the debate on artificial intelligence and work will not emerge from statistical analyses, but instead "will have to come from a much more detailed look at how firms deal with these new technologies" (Crémer and Talim 2017:3). Only by examining organizations in which software algorithms are being developed and implemented can researchers uncover the nature of human-software complementarities that are arising, the contextual factors that influence their form, and how these configurations change over time.

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[6] Recent exceptions include Levy's (2015) research on the digitization of workplace surveillance in the long-haul trucking industry and Christin's (2017) study of algorithmic decision-making aids in newsrooms and judges' chambers.

Research Setting

This study draws on data gathered during 19 months of participant-observation research conducted at AllDone—a high-tech startup operating on the frontiers of the digital economy— between February 2012 and August 2013. AllDone aimed to transform local service markets by using technology to more efficiently connect buyers and sellers. AllDone had launched its nationwide, online marketplace in early 2010. The company was one of many aiming to build "Amazon for local services," a website that would eventually make it as easy to find and hire providers of local services online as it is to buy products. Over 600 service categories were represented, ranging from home improvement (e.g. plumbers and electricians), to event services (e.g. DJs and caterers), to guitar teachers, locksmiths, and many others.

Buyers who visited AllDone from a computer or mobile device were presented with a text box in which they could enter the type of service they were looking for. Buyers would then fill out a short form, answering three or more questions about the details of the job. For example, a buyer seeking a lawncare specialist would first be prompted to select items from the following list that best described the type of lawncare services she needed: mowing, trimming and edging, de-weeding and weed prevention, leaf raking / cleanup, seeding, fertilizer application, mulching, insect control, aeration, or other. Then, she would choose from a list of five options to specify the approximate size of her lawn. Next, she would indicate how often she needed this service: one time, once a week, every other week, 2-3 times a month, as needed, or other. The buyer would then be provided with a text box in which she could write any other details about the job that she thought sellers should be aware of. Finally, the buyer would select from a menu to indicate when she needed these services: I'm flexible, in the next few days, as soon as possible, on one particular date, or other. After the buyer clicked the "Submit" button, she would be provided with a message informing her to expect quotes from AllDone sellers to arrive in her e-mail inbox within 24 hours.

Sellers used AllDone's service to connect with potential buyers of their services. On AllDone's platform, sellers competed with one another to win a buyer's business. Upon signing up with AllDone, each seller established a profile page containing a description of the services she offered, one or more photographs, and reviews of her services written by previous customers. Whenever a buyer submitted a request for services, AllDone would distribute the request to sellers (service providers) in the buyer's area who might be capable of performing the job. Sellers would receive an e-mail or text message informing them that they could review the request. Those who were available and interested in the job could pay AllDone a fee to send a quote to the buyer including a price estimate, information on what was included in their price, and a pitch describing why they were qualified for the job. Buyers and sellers managed any subsequent communication, provision of service, and payment; AllDone assumed no formal responsibility for the outcome of market activities.

As a successful startup that would eventually be valued at over $1 billion, AllDone provided an ideal setting in which to examine the relationship between work and technology in the digital age. The company was part of a new wave of firms using software to "disrupt" traditional local service markets. Like Uber, AirBnB, and a host of other Internet platform providers, AllDone aggregated a vast array of local markets into one online clearinghouse. Such online marketplaces are designed to make it easier for buyers and sellers to locate and transact

with one another, while also providing an opportunity for companies to extract fees from users and profit from their brokerage positions.

The organization was comprised of three work teams. For the majority of my tenure with the company, the San Francisco office was home to about 20 full-time employees in engineering, design, marketing, business, and operations divisions. A distributed, work-from-home team of 200 people across the Philippines typically handled routinized data-processing tasks. And a distributed, work-from-home team of 10 in the Las Vegas area interfaced with AllDone users via telephone. Members of the two remote teams generally held full-time, open-ended independent contractor positions. Each of AllDone's three work sites was demographically distinct. All ADSF staffers were educated at selective or elite colleges, almost all were in their 20s, and all but two were male. Most members of ADP were college educated and between 20 and 40 years old, and over two-thirds were women. ADLV's staff was almost exclusively female; most were middle-aged and did not have college degrees. ADP contractors were recruited, hired, and supervised via oDesk, a digital platform designed to facilitate online freelancing projects. ADLV workers were recruited using local job postings on Craigslist and then supervised via oDesk.

AllDone experienced rapid growth during the course of my fieldwork. By June 2013, over 250,000 sellers had signed up with AllDone. During that month alone, 25,000 submitted at least one quote to a buyer. AllDone was acquiring 4,000 new sellers per month and sending sellers over 100,000 consumer requests, representing a 200 percent increase in request volume in just five months, and a 400 percent increase over the previous June.

Working in the Permanently Beta Organization

The outcomes of technological change are conditioned not only by the attributes of technologies and the organizational contexts in which they are deployed, but also by the broader socioeconomic environments in which they are developed (Barley 1988). Many scholars have examined the rise of flexible capitalism, a term that encapsulates interconnected changes in production processes and technologies, employment relations, and managerial strategies that have shifted burdens and risks from employers to workers. One of the central characteristics of flexible capitalism is the expectation and reality of continual improvisation and transformation in production processes, supply chains, and employment relations as enterprises pursue opportunities to make profits "just in time" (Harvey 1989; Snyder 2016).

The high-tech industry represents a privileged site for considerations of the future of work. As of late 2017, Apple, Alphabet, Microsoft, Facebook, and Amazon were the five most valuable companies in the world by market capitalization (Levi 2017). The technologies produced by firms headquartered in Silicon Valley—a designation that has expanded to include representatives of the high-tech industry across the San Francisco Bay Area—generate volatility in the broader economy by "disrupting" existing markets, reconfiguring employment relations, and generating new sources of value. The power wielded by Silicon Valley is both economic and ideological: High-tech firms are also proponents and carriers of a culture of entrepreneurship that glorifies autonomy and risk, tropes that have been used to legitimate the disintegration of more stable and secure employment relations across many sectors of the economy (Doody, Chen, and Goldstein 2016).

If the technology industry is emblematic of flexible capitalism (Carnoy, Castells, and Benner 1997), then high-growth tech startups arguably represent a crucible for these

developments. New enterprises develop amid conditions of uncertainty and fluidity. Nascent firms in unsettled markets typically struggle to secure scarce resources including customers, capital, and employees. Unable to make substantial investments in research or long-term strategic planning, entrepreneurial firms are frequently presented with unanticipated challenges and possibilities. Entrepreneurs thus pursue a strategy of "opportunistic adaptation," developing ad-hoc responses to unexpected problems as they arise and experimenting with a multitude of new initiatives whose outcomes are uncertain (Bhidé 2000).[7]

According to Neff and Stark (2004), technological advancements have supported the emergence of a new organizational form that can be described as "permanently beta." Surveying the aftermath of the first dot-com bubble, the authors asked how the internet had altered economic organization at the turn of the century. Drawing on fieldwork and interviews conducted at new media firms in New York City, they argued that internet technologies had intensified preexisting organizational trends toward greater adaptability and flexible production. These changes were on display most dramatically in firms that produced software applications. By facilitating contact between a product's designers and its users—and, at times, blurring the boundary between producers and consumers—the internet accelerated "the process of continual technological change in which the cycle of testing, feedback, and innovation facilitates ongoing negotiations around what is made and how to organize making it" (Neff and Stark 2004:175). In the "permanently beta" firm, an ethic of continual change animates the repeated transformation of both products and organizational processes.[8]

I expand on the term "permanently beta" to describe not only fluidity in the organization of production, but also how workers' livelihoods and subjectivities are linked to organizational flux. Sociologists of work have long endeavored to situate labor relations within their social contexts to understand the cultural, collective, and cognitive dimensions of work (Tilly and Tilly 1998; Sallaz 2013). Organizations are settings in which managers and workers endow tasks with meaning and values that matter for how workers are motivated, how tasks are executed, and how workplace technologies are deployed (Selznick 1957; Barley 1988; Kunda 1992; Grint and Woolgar 1997). Breaking with the debate between continuity and discontinuity thus draws our attention not only to how work and technology interact within particular organizational settings, but also to the organization of workers' capacities and interests.

Researchers have demonstrated how software developers navigate the economic and organizational flux in which they participate. IT professionals often experience the benefits of creativity and autonomy in the workplace alongside social costs that include demanding deadlines and unstable careers (Perlow 1998; Cooper 2000; Ó Riain 2000; Ross 2003; Sharone 2004; Shih 2004; Damarin 2006; Neff 2012). We know far less, however, about the opportunities and costs faced by complementary workers as they negotiate rapid organizational change—in part because examinations of such workers tend to focus on the digital platforms that mediate employment relations rather than the organizations that hire complementary workers (Martin et al. 2014; Barnes, Green, and de Hoyos 2015; Irani 2015; Kingsley, Gray, and Suri 2015; Gray et

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[7] In addition to these organizational attributes representative of flexible capitalism, high-tech startups backed by venture capital are also implicated in the increasing financialization of the economy (see Chapter 2).

[8] In the ensuing years, high-tech startups have adopted technological tools and organizational practices that have further quickened the pace of software development. Whereas software firms previously enrolled a small subset of users as "beta testers," the rise of "big data" and A/B testing (Ries 2011) has turned entire populations of users into unwitting test subjects.

al. 2016; Ekbia and Nardi 2017). Organizational flux is likely to hold different meanings—and to be associated with different consequences for workers' livelihoods—depending upon how employees are positioned within organizations, production networks, and labor markets.

Methodology

I entered the field intending to investigate the relationship between organizational culture and employee commitment in San Francisco's youthful high-tech industry. A friend helped me gain access to AllDone by introducing me to Martin—a former high school classmate and one of AllDone's co-founders—via e-mail. Martin agreed to meet with me, and following our conversation offered me an unpaid internship. I would come to the office one day per week and assist Martin with marketing projects in exchange for research access. Within a month, Martin proposed that I take a part-time, paid position. As I began an assignment involving members of AllDone's remote team in the Philippines, the focus of my research extended to include the human-machine systems that I quickly discovered were integral to AllDone's operations. A few months later, executives and I agreed that I would take on a full-time role for one year while continuing my research activities. I became AllDone's director of customer support and operations manager, reporting to Carter, AllDone's president. In this role I interacted frequently with leaders and team members across the organization: I participated in three weekly meetings with ADSF principals and held multiple weekly calls and videoconferences with ADP and ADLV leaders; I also traveled to the Philippines three times, and to Las Vegas on nine occasions to meet with team leaders and employees. Additionally, I reviewed thousands of documents and e-mails during and after my tenure with the company.

Engaging in systematic and sustained participant-observation research within an organization operating on the frontiers of the digital economy allowed me to observe the complementarities that emerged between workers and innovative software systems. I employed a longitudinal research design (Fine, Morrill, and Surianarain 2009) to observe how the relationship between work and technology unfolded over time within a dynamic organizational context. Whereas most studies of work and technological change examine how the introduction of new machinery affects the organization and execution of work, I investigate how configurations of software and workers were transformed as an organization adapted to shifting pressures from investors, competitors, and users.

I employ internal comparison to examine how differently positioned workers make sense of their place within an accelerated startup economy. Owing to my responsibility for serving as a broker between teams, I was arguably in the most advantageous structural position within the firm to understand the workings of and relations between all three groups simultaneously. I view AllDone as a complex field of labor processes involving the accommodation of different cultural practices. I trace the consequences of rapid change for workers in all three sites by drawing comparisons between groups and observing how each compared itself to others.

After leaving the field and reviewing my fieldnotes, I identified three analytic phases, each corresponding to a roughly six-month period of my research and the company's development. The construction of each analytic phase was based on my observations of major "breakpoints," when exogenous events and shifts in organizational strategy offered new "occasions for structuring" the relationship between work and technology (Barley 1986). (See

Methodological Appendix for an expanded discussion of data-gathering and analytic procedures.)

Summary of the Study

This study examines the processes through which human-software configurations emerge, evolve, and dissolve within a firm operating in industrial and organizational conditions of fluidity that are becoming increasingly relevant across the economy. I demonstrate the uneven development of relations between software and the people who create and use it, and the consequences of continual change for the company's managers, workers, and users.

The empirical chapters proceed in chronological order, tracking the temporal development of the firm. The company's strategic direction was guided by its pursuit of venture capital. Executives' priorities frequently shifted in response to the expectations of VC firms. Each priority generated new problems that I call "lags" to denote how managers' vision outpaced technological and organizational realities. At each stage of the company's development, managers deployed particular types of labor, located in San Francisco, the Philippines, and Las Vegas, to address these lags. As they labored in and around AllDone's digital machinery, workers at each site affixed particular meanings to their labor and their place within the company. Each of the columns in Table 1 outlines one of the four chapters to follow.

	Phase 0	Phase I	Phase II	Phase III
VC Impetus	Invention	Expansion	Revenue	Profit
Location	San Francisco	Philippines	Las Vegas	Global Integration
Lag	Valuation	Machine	Human	Organizational
Labor Process	Innovation	Computational	Emotional	Managerial
Culture	Speculative Optimism	Familial Love	Frustration	Rationalization

Table 1: Summary of the Study

Chapter 2 introduces AllDone's San Francisco headquarters, where the product was designed and built. In this chapter, I argue that venture capitalists confront a temporal and imaginative gap between their investment in a firm and their ability to realize returns. I then elaborate how this *valuation lag* set AllDone's strategies in motion. AllDone employed a combination of material and symbolic practices to secure resources and enhance the firm's perceived value. Materially, members of AllDone's San Francisco staff engaged in the *labor of innovation*, continually revamping the organization and its product to identify ways to maximize the firm's value. Symbolically, leaders promoted an organizational *culture of speculative optimism* to project its legitimacy to actors inside and outside of the company amid conditions of uncertainty. The firm's dynamism was a source of excitement for staffers, as engrossing "work games," observable successes, and employees' financial stake in the company reinforced the belief that the company and its employees could be destined for greatness.

Chapter 3 traces the first phase of my research (February–July 2012), when AllDone's top managers hoped to take advantage of the company's first round of venture capital funding by

increasing demand for the product. Software engineers prioritized building and expanding systems that drew new users to the website and facilitated their activity. Developers confronted *machine lag*, or gulfs between their imagination and the realities of technology's limitations and the firm's scarce resources. They addressed machine lag by deploying *computational labor* in the form of Philippine workers who stood in for software algorithms by performing repetitive tasks to support or stand in for software infrastructure. These functions supported the day-to-day operation of AllDone's website, freeing employees in San Francisco to focus on innovation. Consequently, Filipino employees were relatively insulated from the dynamism originating in the San Francisco office. AllDone Philippines' organizational *culture of familial love* was integral to the maintenance of a stable, trusted, and functionally flexible workforce. Drawing on symbolic resources familiar to a neo-colonial workforce, AllDone Philippines' rhetoric of love, family, and gratitude helped employees endow tedious work with meaning, and fostered trust and affective attachments among workers and between workers and management.

In Chapter 4, I describe the second period of research (August 2012–February 2013), when executives shifted their focus toward generating a sustainable revenue stream that would ensure the company's longevity and attract a second round of funding. *Human lag* arose when users were reluctant to accept the performance of AllDone's software systems. Human lag was addressed by the *emotional labor* of phone support workers distributed across the Las Vegas area who managed relationships with users and helped them adjust to software systems. In contrast with AllDone's complementary workforce in the Philippines, Las Vegas-based employees bore the social costs of organizational flux. Phone support agents were squeezed from above and below as they struggled to keep up with frequent product changes orchestrated by members of the San Francisco office while managing the mounting frustrations of AllDone users. AllDone Las Vegas' organizational culture was modeled on the Filipino workforce's culture of familial love. In Las Vegas, however, employees' exposure to rapid change made work more difficult, compensation was lower relative to the local prevailing wage, and the social distance from elite workers in the San Francisco office was reduced, resulting in a *culture of frustration*.

Chapter 5 covers the final phase of research (March–August 2013 and beyond), when AllDone secured a second round of venture capital funding. Executives confronted *organizational lag* when investors imposed new expectations on how the firm would be run as it began to transition from an early- to later-stage—and potentially profitable—startup. Across all three work teams, new leaders were hired to execute *managerial labor* aimed at implementing new bureaucratic routines and procedures, communication and coordination systems, and mechanisms for monitoring and controlling employee efforts. As the firm matured, shifting organizational patterns gave rise to a *culture of rationalization*. Employees across the organization became increasingly disenchanted with an enterprise that many had previously viewed as providing an alternative to traditional workplaces.

Chapter 6 presents the study's broader implications for research on work and technology in the digital age. I argue that this project opens the black box overlooked by economists' statistical models and technologists' theoretical speculation. The findings reveal industrial and organizational conditions under which software automation can paradoxically spur new forms of human involvement, suggesting how the dynamism of the organizations in which software algorithms are produced and implemented will contribute to human labor's enduring relevance in the digital age.

Chapter Two
Phase 0: AllDone San Francisco, the Labor of Innovation, and Speculative Optimism

'Leading a startup embodies a tension between having and expressing complete confidence in what you're doing—knowing that you *will* succeed, and conveying its "inevitability." And yet, on the other hand, you have to be honest with yourself and your employees that *nothing* is working, that you have to make change after change to get where you need to be.'
- Peter, AllDone CEO, in conversation at an off-site celebration

"[T]wo institutional mechanisms enforce the future orientation of actors in capitalism: competition and credit."
- Jens Beckert, *Imagined Futures*

In this chapter, I argue that venture capitalists confront a temporal and imaginative gap between their investment in a firm and their ability to realize returns. I then elaborate how this *valuation lag* set AllDone's strategies in motion. AllDone employed a combination of material and symbolic practices to secure resources and enhance its perceived value. Materially, members of AllDone's San Francisco staff (or ADSF) engaged in the *labor of innovation*, continually revamping the organization and its product to identify ways to maximize the firm's value. Symbolically, ADSF's leaders promoted an organizational *culture of speculative optimism* to project its legitimacy to actors inside and outside of the company amid conditions of uncertainty. The firm's dynamism was a source of excitement for ADSF staffers, as engrossing "work games," observable successes, and employees' financial stake in the enterprise reinforced the belief that the company and its employees could be destined for greatness.

The Venture Capital Cycle and Organizational Dynamics

AllDone was founded by a small group of young entrepreneurs who had what they believed could be a multi-billion-dollar idea—to create an "Amazon for local services"—but lacked the capital needed to build the company. High-tech startups often look to venture capital firms (VCs) to supply funds (Zider 1998; Kenney and Florida 2000; Gompers and Lerner 2004). VCs receive an ownership stake in emerging enterprises in exchange for money that entrepreneurs can use to fund operations and growth, along with the VC's counsel, credibility, and connections. In contrast with investors for whom returns are derived from the repayment of loans plus interest, VCs derive their returns from the appreciation of the value of the firms in which they invest. Investments are thus predicated upon the belief that, at some point in the future, another party will be willing to pay a higher price for a comparable ownership stake in the firm.

Silicon Valley VCs guide successful entrepreneurs through successive stages of development and funding. Venture-backed startups are funded in "rounds," with investors in the earliest rounds typically receiving the most favorable terms, having risked their money when the company's prospects were most difficult to evaluate. I refer to a venture-backed startup's

progression through each stage of funding as the *venture capital cycle*.[9] At each stage of a successful startup's development, entrepreneurs a) seek funding from investors, b) secure funding, and c) invest newly-attained resources in projects that they anticipate will produce d) outcomes that will help the company restart the cycle by attracting its next round of funding (Figure 1). When each new round of funding is secured, previous investors and shareholders may have the opportunity to sell a portion of their stake in the company to the new investors at a higher valuation. For the most successful firms, the venture capital cycle continues until the company is acquired at a premium or makes an initial public stock offering.

Harvest
Gains

Seek
Funding

Invest
Resources

Secure
Funding
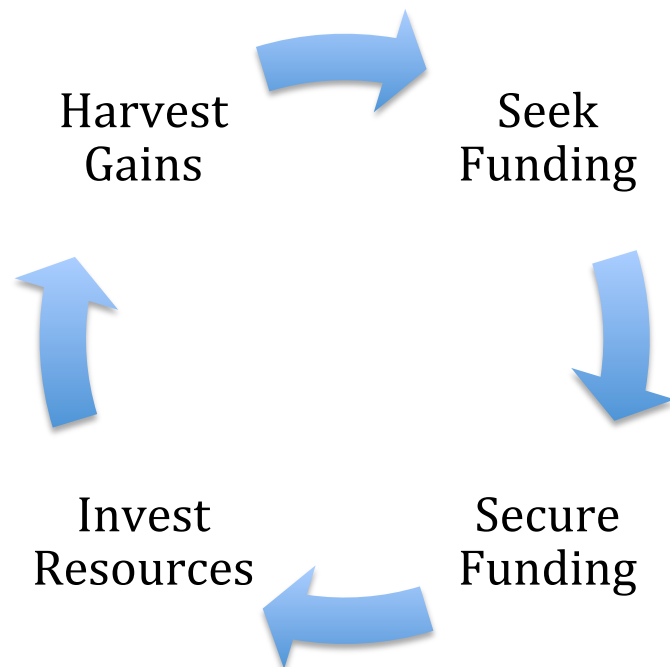
Figure 1: The Venture Capital Cycle

VCs develop portfolios of high-risk and potentially high-reward firms. Many venture-backed startups do not succeed, and are liquidated; others fare better and either remain in operation while generating modest profits, or accept a corporate acquisition offer. A small percentage of venture-backed startups present an initial public stock offering; an even smaller fraction of these generate the majority of VC returns. In the high-tech industry, the goals of entrepreneurs and VCs are typically aligned: both aim to either sell the firm to the highest corporate bidder, or, better yet, to sell shares in the firm on the public market to generate exponential returns for shareholders. Because core employees of VC-backed firms often receive stock options as part of their compensation packages, the speculative logic of finance capital can pervade the upper echelons of the shop floor. Stock options link the interests of privileged

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[9] Whereas Gompers and Lerner (2004) use the term to describe VC activity at the industry level (specifically, the recurrence of periods of boom and bust), I refer instead to the activities of a single VC-backed firm as it progresses through stages of investment. This model is inspired by general life-cycle models of organizational development (van de Ven and Poole 1995).

workers with those of VCs and entrepreneurs, bolstering employee commitment to the organizations for which they labor (Neff 2012).

AllDone's participation in the venture capital cycle set the firm's activities in motion. Unlike "Main Street entrepreneurs" (Doody et al. 2016), AllDone's executives were not motivated to steadily build a profitable business. Instead, executives sought to convince successive rounds of VCs to provide the resources the company needed to supercharge its growth. In the unsettled markets in which tech startups operate, a firm's generalized *adaptability* to rapidly shifting industrial conditions can be more beneficial than its *adaptation* to any particular niche (Stark and Girard 2009). Low barriers to entry for competitors and copycats can make it particularly difficult for companies to retain a position on the leading edge. When disruption and dislocation are the norm, organizations and products that remain "permanently beta"—or perpetually "under construction"—may be better positioned to outlast those that are rigid or inflexible. To demonstrate rapid growth when a firm's environment, content, and even value are uncertain requires relentless innovation.

Working at AllDone Headquarters

AllDone's San Francisco office was a converted industrial loft with concrete floors and rectangular wooden pillars stretching up to the ceiling two stories above. The only natural light came from small, opaque, street-facing windows and murky skylights, but the office's high ceiling—along with bright white and exposed brick walls, an open floor plan, and comfortable couches—made it an inviting space. AllDone headquarters was modest by the standards of larger and better-funded startups, but as an employee I experienced the office as an environment of abundance.

The clatter of computer keyboards in the ADSF office was frequently complemented by the authoritative *chop-chop-chop* of a chef's knife across a cutting board. The office's focal point was its kitchen, where Amy, an Ivy League-educated white woman in her late 20s who had been trained in French cuisine at Cordon Bleu, could usually be found preparing meals or snacks for the staff. Throughout the day, enticing odors emerged from the kitchen and wafted across the office, tempting even those behind closed conference-room doors to emerge for a lunch of cumin-seared fish tacos or chocolate chip meringues as an afternoon pick-me-up. Free meals were on offer throughout each workday: employees dipped into well-stocked refrigerators and pantries to make their own breakfasts; Amy prepared a fresh lunch that staffers would eat while gathered around a row of tables; and after lunch she made dinner for employees to fetch from the refrigerator in the evening. All were welcome to invite guests—professional connections or friends—to lunches or to Wednesday night "family dinners," when Amy would stay late to prepare an elaborate meal, and conversation, ping-pong and foosball matches, and the activities of ADSF's beer-brewing club would extend late into the evening.

Free meals were among the many perks enjoyed by ADSF employees. New hires were invited to customize their workspaces with their preferred equipment at the company's expense. Staffers also enjoyed a great deal of control over their time, including flexible work hours, opportunities to work from home when necessary, and a liberal vacation policy. ADSF staffers could be reimbursed up to $150 for using AllDone every month, and funding was also available for pursuing work-related educational opportunities. Chloe, ADSF's office manager, also coordinated monthly chair massage sessions and morning yoga classes in the office.

In addition to competitive salaries, full-time employees received allocations of stock options that varied according to their role and hire date. In general, the size of stock-option grants offered to new employees decreased over time, and employees whose roles management viewed as more valuable (e.g. software engineers) received far more than those whose work was viewed as less valuable (e.g. office manager). AllDone's co-founders owned substantial portions of the company. Early on, when AllDone was funded by an initial "angel" investment, some software engineers accepted an offer to trade their salaries for stock options; one early hire was able to accrue a one-percent stake in the company. Most employees held far less. I was told that my own stock option grant, if fully vested over four years, would be worth $1 million if the company were to achieve a $1 billion valuation.[10] These perks were aimed at helping the company attract and retain a talented workforce devoted to building an innovative product that would capture the attention, money, and imagination of customers and investors for years to come.

Managing an Ecosystem: ADSF's Vision and the Labor of Innovation

AllDone's San Francisco office was where the imperatives of the VC cycle were translated into the labor of innovation. Nobody had ever successfully created a nationwide, online marketplace for local services, so there was no clear template to work from as AllDone's staffers sought to address a host of unanticipated problems and opportunities at every stage of the company's development. ADSF's 20 employees—whose average age at the time I entered the field was 28—were split into software engineering, product design, business development, marketing, and operations teams. Although they enacted a diverse range of labor processes, most ADSF staffers performed the *labor of innovation* insofar as they shared a common charge to create change. I thus use this term to encapsulate the primary activities of a variety of employees. When a software engineer developed a new product feature; when a user-interface designer altered the appearance of a webpage; when a marketer penned new ad copy to try out on Facebook or Google; when an operations manager wrote instructions for remote workers to enact a new process—all of these are examples of the labor of innovation.

ADSF staffers envisioned AllDone's platform as a complex and interdependent "ecosystem" of buyers and sellers. Team members continually monitored Vision, an online administrative dashboard that tracked every user action taken on the website in real time. Each piece of data could be aggregated into detailed reports revealing trends as they developed on an hourly, daily, weekly, monthly, quarterly, or yearly basis. Developers tracked key metrics that gave insight into the size and health of the user population: for example, how many unique visitors were entering AllDone via web search, how many of those visitors submitted requests, and how many quotes sellers sent to buyers. Figure 2 depicts one of the many reports on AllDone's metrics that was generated by Vision.

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[10] However, I later learned that each subsequent round of VC funding significantly diluted the value of existing stock options.

		2012-05-01	2012-04-01	2012-03-01	2012-02-01	2012-01-01	2011-12-01
Traffic	Search	157,427	533,504	510,475	422,354	363,600	279,415
Login	Users	46,808	112,550	106,960	96,286	95,548	79,641
Services	Created	2,761	9,957	12,150	12,730	14,711	11,282
Requests	Created	8,110	26,498	23,559	18,611	15,131	11,705
Revenue	Lead	21,755.6	76,508.0	67,168.1	52,178.0	46,482.9	26,160.4
	Commission	36	430	1,014	603.6	727.8	1,615.2
	Subscription	8,854.6	33,938.0	27,917.5	15,665.0	12,996.3	6,520.7
	Total	30,646.2	110,876.0	96,099.6	68,446.6	60,207.0	34,296.3
Bids	Fixed	3,772	13,896	12,645	10,319	9,286	5,809
	Commission	0	0	3,807	4,088	3,393	3,801
	Subscription	9,115	27,848	15,804	7,559	4,529	2,014
	Free User Invite	2,172	6,963	7,204	6,521	5,506	4,234
	Free Low Invites	2,291	7,718	1,045	0	0	0
	Free First Lead	839	4,512	7,600	9,938	11,662	9,338

Figure 2: A Monthly Overview Report from Vision

Many members of the product team (comprised of ASDF's product manager, software engineers, and user interface designers) prided themselves on what they viewed as a rigorous, data-driven ethos of experimentation. "At AllDone, *everything* is an experiment," one member of the engineering team explained in a blog post. "We believe that the most difficult questions can be answered with data. This belief pervades everything we do."[11] If AllDone housed an ecosystem of buyers and sellers, members of the product team were AllDone's experimental population biologists: their task was to scientifically engineer the company's online environment to get key user metrics moving "up and to the right" when plotted on a graph tracking change over time. Employees continually conducted "A/B tests"—in which a portion of users were

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[11] This ethos became a source of frustration for some product designers, who believed that the company's "data-driven" philosophy devalued their specialized knowledge and aesthetic judgment. Some complained that management would generally prefer a design change that boosted key metrics, even if it detracted from a more elegant and user-friendly interface. This resonates with research in other settings in which the emergent authority of data scientists has superseded subject-matter expertise (e.g. Kelkar 2018).

exposed to an experimental treatment, and others to a control treatment—to determine which changes would increase user engagement.

Engineers, designers, and marketers constantly theorized and tested new techniques to create statistically significant increases in important user metrics. Occasionally developers built tests of large-scale features like an alternative payment model. Much more common, however, was constant tinkering with the user interface, e-mails sent to users, or ad copy. If designers changed the positioning of the "submit" button on the buyer request form, made it bigger, or altered its color, would more buyers complete their requests? If AllDone gave sellers a 50% discount on their first quote submission, would those sellers be more likely to become active users? The consistent expansion of the population of buyers meant that small tweaks to the product that boosted key metrics by even a fraction of a percent could "move the needle," or significantly increase user activity. The effects of each change would compound over time as the ecosystem became larger.[12]

Vision's reports were integral to the labor of innovation. The data provided by the dashboard informed developers' conceptions of the problems that needed to be solved, spurred the formulation of new features, and allowed developers to systematically assess their effects on the ecosystem. Consider, for example, the important metric of quotes submitted by sellers. A higher volume of seller quotes was good for consumers, who would have more choices when selecting a service professional, and good for the company, which derived its revenue from charging sellers to get in touch with potential buyers. One of myriad possible ways to increase quote volume was to increase the number of sellers who acted on the e-mails that AllDone sent them when a buyer in their area placed a relevant request. Developers hypothesized that the text in the subject line of these automated e-mails could affect the number of sellers who opened the message. They devised an experiment allowing them to "A/B test" a variety of subject lines to determine which was most likely to lead sellers to open an incoming message, and then to send a quote to the buyer. Each A/B test exposed one group of users to the "treatment" ("A")—a new e-mail subject line—and another to the "control" ("B")—the original subject line. Developers then used the data gathered by Vision to discover which version resulted in the highest proportion of opened messages and submitted quotes. Finally, developers implemented the version that performed best: "New message from [Buyer Name]."[13] Vision thus informed and reflected the continual transformation of AllDone's product. Vision's technological toolkit shaped how ADSF staffers understood and engaged with the user population, helping them "see like a VC" (Vertesi 2015).

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[12] The vast majority of new buyers entered AllDone via search engine results. Throughout my time at AllDone, ADSF was investing heavily in search engine optimization and incoming traffic from search was consistently growing. (More on this in Chapter 3.) Incoming search traffic constituted "top of the funnel" numbers; as a user flowed through the site, various experiments were aimed at advancing buyers toward submitting a request and deterring them from exiting the website.

[13] Although user metrics were typically the primary consideration in implementing changes to the product, secondary considerations could also come into play. In this instance, Josh, the product manager, worried that users might be confused by the change, or that they might find the winning subject line "unfriendly" or robotic. It was possible, he speculated, that the change would increase seller activity in the short term, while in the long term eroding sellers' trust in AllDone. Adam, the head software engineer, did not share this concern, arguing that "we have to trick them into clicking for their own good." In other words, even if sellers were initially confused, or if the subject lines didn't leave them with a warm feeling, it was important to entice them to open the e-mail, because the end result would be more sellers competing for and winning jobs.

The labor of innovation was not always glamorous. Software developers could spend hours on end reviewing and debugging code. Process engineers like Martin, Paul, and I might spend a day or more immersed in a single spreadsheet, or writing instructions in painstaking detail to routinize labor processes (see Chapter 3). Still, I found designing and optimizing algorithms (in my case, written in English rather than computer code) to be gratifying. Even when the work was tedious, the context in which it arose was stimulating: I was continually confronted with new problems to solve and trusted to formulate solutions on the fly. In my first performance review, Martin distinguished between my role in conceiving of projects and processes, and the role of the people who executed them:

> [I]f you spend all your time on grinder projects that take many hours, we lose you for other projects that could be equally valuable for you to work on. You should always think about how you can set up a process, delegate to someone else (an outside contractor or someone on ADP/ADLV), and move on.

It was easy for ADSF staffers to find "grinders" across the globe who would be willing and able to take on the grunt work. For process engineers, the high-value work of innovation consisted of devising and documenting procedures for executing a project, outsourcing the execution to someone else, and taking on the next challenge.

Playing the Numbers Game

The labor of innovation at AllDone often resembled a "work game" that combined autonomy in the labor process with uncertain results (Burawoy 1979). ADSF employees were "constantly presented with puzzles to solve, quests to fulfill, and challenges to master," finding "pleasure in meaningful situations characterized by moderate freedom and intermittent feedback (Sallaz 2013: 122, 125).[14]

Members of ADSF enjoyed considerable autonomy in formulating and executing experiments. Executives set the rules of the game, or the primary goals that the product team would pursue (e.g. increase the volume of buyer requests, sellers' quotes, or revenue). Team leaders decided which projects would be undertaken to meet those objectives, prioritizing those anticipated to leverage AllDone's limited resources to make the greatest possible impact. Employees were then granted significant latitude to collectively and individually formulate, execute, and assess the results of their projects.

Staffers made educated guesses as to how effective their experiments might be, but the results were ultimately difficult to predict. Because AllDone was a nascent startup experiencing rapid growth in a developing field, its conditions of operation were continually in flux, and developers had little historical data upon which to base their speculations. Trying out new ideas was respected, and the failure of carefully formulated tests was common and accepted. One night

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[14] Unlike Burawoy (1979) and many of his successors, I do not use the term "work game" to describe how subjective experiences of the labor process functioned to secure workers' consent while obscuring relations of domination between management and employees. For ADSF's privileged employees—who could imagine themselves as owners of a tiny fraction of a high-growth company—consent was indeed overdetermined. However, the concept of the "work game" remains useful insofar as it points to the characteristics that can make experiences of work compelling across a variety of settings.

I overheard Adam, the director of engineering, talking to Peter, the CEO, about an e-mail marketing campaign that the company would soon be launching. "It's hard to comprehend the magnitude of change it will make," Adam said. "It could be amazing. Or maybe [users] don't care. It could make a game-changing difference, or do nothing at all." In another instance, engineers discovered that a seemingly minor alteration to how strictly AllDone interpreted sellers' stated travel preferences (the distance they were willing to travel for a job) appeared to have been responsible for doubling week-over-week revenue by dramatically increasing the number of requests that sellers received and in turn the number of quotes they chose to submit. New experiments thus held the promise of substantially boosting important metrics, but the results of most tests were unknowable until they had been executed.

Mysteries also abounded in the relationship between actions taken by AllDone and the Google search engine algorithms upon which the company relied for the bulk of its traffic, which are shrouded in secrecy to prevent web developers from gaming the system. At a meeting introducing new staffers to Vision, Josh, the product manager, said that ADSF's product team watched incoming traffic from search with a "laser eye."

> However, he continues, Google is a black box. Sometimes developers will make changes to AllDone's website to try to boost its search rankings, and a while later they'll see a bump in traffic, but they won't know exactly what caused it.

In these instances, uncertainty was introduced not by AllDone users' responses to change, but by the machinations of a third party upon which AllDone was dependent for resources. Playing the numbers game allowed ADSF employees to direct processes that could propel the company toward greatness—which, employees were told (and often told themselves), could ultimately change their lives and change the world.

Building Legitimacy in Conditions of Uncertainty

In addition to material practices of innovation, entrepreneurs also perform symbolic work aimed at building current and potential stakeholders' confidence in enterprises that have yet to demonstrate their value. An entrepreneur differentiates her new ventures from others by emphasizing its novel qualities, yet she must simultaneously attempt to overcome the liability of newness "by identifying its symbolic congruence with similar organizational forms and ideologies" (Lounsbury and Glynn 2001: 551).[15]

As DiMaggio and Powell (1983) have argued, industrial conditions of uncertainty often give rise to imitation, as firms in unsettled fields model themselves on organizations and organizational forms that are widely recognized as successful. Silicon Valley workplaces generally conform to the high-tech industry's institutionalized rules of legitimacy (Meyer and Rowan 1977). For example, organizational hierarchies tend to be less pronounced than in large corporations; core workers are afforded considerable trust and autonomy; and workspaces are typically designed to emphasize informality and provide spaces conducive to communication and collaboration. A single managerial decision can thus have both intrinsic and symbolic

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[15] The common Silicon Valley trope for describing a new startup—"It's X for Y"—demonstrates how new ventures must be simultaneously novel and yet also recognizable. For example, an on-demand dessert delivery service might be described as "Uber for ice cream."

dimensions (Zott and Huy 2007). Choices regarding an office's location, décor, and dress code, for instance, have immediate, practical effects for workers, but also have symbolic effects insofar as they direct individuals' assessments of an organization's "normative appropriateness" (Lounsbury and Glynn 2001).

Presenting convincing displays of a startup's prospects is a crucial precondition of resource acquisition and the generation of wealth that can follow. Thus, "entrepreneurs must become skilled cultural operators who shape interpretations of the nature and potential of their new venture to those who may supply needed resources" (Lounsbury and Glynn 2001:549; see also Cockayne 2016). Observers have frequently remarked upon one form of cultural work that pervades high-tech startups: In the quotation that opens this chapter, Peter, AllDone's CEO, explains that startup leaders must project their "confidence" in the "inevitability" of their firm's triumphs, while at the same time operating with the knowledge that its future is in fact shrouded in uncertainty (Stark and Girard 2009).

Laboring in organizations is not simply a matter of cold, calculative activity. Work also "consists of learning and maintaining the proper affective tone (by proper management, gesture, appearance, words, and deeds)" for the social setting (Van Maanen and Kunda 1989:54). These situation-specific "feeling rules" are the criteria upon which emotional expressions are judged. Workers regulate their emotional expression to match the expectations that accord to their role (Hochschild 1983). Employees engage in "surface acting" when they "modify and control their emotional *expression*" (Brotheridge and Grandey 2002: 22). These outer, "surface" expressions may conflict with an employee's inner feelings. But organizational members may also engage in "deep acting," or "the process of controlling internal thoughts and feelings to meet the mandated display rules" (p. 22). When people engage in deep acting that accords with organizationally-defined feeling rules, the "authenticity" of their emotional display can be difficult to assess, and will likely vary depending upon the situation (Van Maanen and Kunda 1989).

In the remainder of this chapter, I describe the particular manifestation of the Silicon Valley ethos that I observed in AllDone's San Francisco office: An organizational *culture of speculative optimism*. A startup's capacity to inspire confidence in its future is a necessary but insufficient condition for success. ADSF's culture of speculative optimism bolstered AllDone's external and internal legitimacy, helping the company attract needed resources while also providing a source of motivation for employees. The practices of the labor of innovation and its absorbing numbers games reinforced and provided a material basis for the belief that AllDone could be poised for greatness. Managers and employees participated in interaction rituals that bolstered this belief by producing feelings of exuberance and solidarity (Mears 2015). Such practices created symbolic benefits for the firm and its employees, built excitement about the future, and endowed experiences of work with status and an affective charge.

The Affective Life of Data: ADSF's Culture of Speculative Optimism

I have already described how the combination of autonomy in the labor process and uncertain outcomes created engrossing work for AllDone's San Francisco-based employees. In this section, I argue that the practices of tinkering, tweaking, and revamping, when combined with employees' financial stake in the fast-growing startup (in the form of stock options), formed the material basis of an organizational culture of speculative optimism.

While most fieldworkers' first days of research are filled with personal experiences of exhilaration that come with gaining access to and learning about a novel social setting, I also observed a palpable sense of excitement among my colleagues. Some of this was attributable to the relief that had come from surviving a near-death experience: The company had almost run out of money in the months before I arrived, finding a VC investor only after having been rejected by over 40 other firms. The funding had fundamentally altered AllDone's outlook. Conversations at the lunch table and around the office buzzed with optimistic speculation about the enterprise's prospects and potential value. Employees watched AllDone's user base and the team in San Francisco grow larger every week. (When I began working at AllDone as an intern, I repeatedly arrived to my desk in the morning only to find that I had been displaced by a new full-time employee.) A competitor had just been acquired by a major retailer. Even though I entered the field as a critical sociologist, I too soon found myself caught up in the excitement. (See Methodological Appendix.)

Not only was it fun and exciting to confront challenges, formulate and test hunches, and observe the results of one's efforts developing in real time; every problem solved also represented one more step toward solving the larger puzzle of making AllDone the next big thing, with ADSF staffers potentially poised to reap life-changing rewards. User metrics thus played an important role in both employees' labor processes and in their subjective experiences of work. Carter captured this ethos in an e-mail that he sent to San Francisco employees:

> We all know the opportunity we have is insane. Few people in the world have an admission ticket to ride a rocket ship like the one we're sitting on. Most of us will never get another ticket like this; I doubt I will. As [CEO] Peter likes to say, if we build our vision AllDone will touch each of us for the rest of our lives. It will transform us each personally—not just financially and socially—but it will stretch our skills, what we thought we could personally accomplish, and be something that is with us even decades from today.

Managers and employees frequently mobilized the metaphor of the "rocket ship" to represent the company's progress and prospects—we were all hurtling upward together. Here Carter emphasizes the singular nature of our situation, and acknowledges not just the riches and fame that could follow, but also existential benefits (Cockayne 2016). AllDone is figured as a project that holds the promise of altering employees' life trajectories and permanently endowing their lives with meaning.

Employees were told that they were uniquely positioned to transform their own lives as they changed the world. As Martin said in a toast at a quarterly review party, 'I've never felt better about AllDone and the future. […] We're making our mark. That's why we're here: to leave one of the biggest marks in the history of technology.' Executives frequently cited the positive impact that AllDone's success was already having around the world: By making it easier for buyers and sellers of local services to connect with one another, AllDone was supporting the growth of the small businesses that are the backbone of the American economy, while also providing employment opportunities that improved the lives of workers in the Philippines.

Managers established AllDone's culture of speculative optimism through rhetoric and collective rituals. Upon being hired, ADSF employees received an introductory message stressing not only the high standard to which the company held employees, but also the expectations that employees should have for the company's success. "[O]ur first guiding principle at AllDone," it stated, was "**Play to win**: We're a professional sports team, not a family. We're not here to have a good season. We're here to win the Super Bowl." ADSF employees

were joining a team whose purpose was to become the champion of the startup world. ADSF's feeling rules were also practiced and reinforced from the bottom-up. Karina, a user interface designer, penned personal notes to each member of the staff a few weeks after she joined the team. Mine read:

> I'm burning to tell you how <u>excited</u> I am to be here, and how thrilled I am to work with <u>you</u> in the coming months! I've never been so fired up about succeeding, and I need to let you know I'm giving you & AD my all. Let's share ideas, let's be open, let's launch this baby into space!

Regardless of whether Karina was engaged in "surface acting" or "deep acting," her vivid expression of enthusiasm clearly demonstrates her understanding of ADSF's feeling rules.

Four times a year, the San Francisco staff spent an afternoon reporting on each division's progress and goals, and the evening celebrating. Quarterly review meetings represented opportunities for ritualized proclamations establishing the company's tantalizing prospects for success, as at the conclusion of the first review that I attended:

> After we take a group picture outside and wander back into the office, Peter herds us into the large conference room to tell us that he's so excited. Nobody's ever done what we're doing before. We have the right people to do it, and the money to do it, so now it's our hard work and creativity that will push us over the top. We have only ourselves to blame if we don't succeed.

AllDone's glory was not inevitable—but it was ours for the seizing. Carter then projected an administrative webpage on the wall that listed recent user activity on AllDone: 'Look at all these requests placed in the last 15 minutes. Each of these verticals is a company in its own right,' he said, meaning that one could imagine a separate, successful business that would connect buyers and sellers of dog walking, piano tuning, house cleaning, and each of the hundreds of services offered on AllDone's platform. 'We're going to be a juggernaut, doing them all.' Martin ended the meeting by telling us that a friend had connected him with a VC specializing in marketplace websites like AllDone. The VC had said that his firm was watching us, just like they watch everyone in our market. 'You guys are sitting on top of a gold mine,' the VC reportedly told Martin. 'If you can just crack the nut, you'll be the next Amazon.'[16]

Quarterly review meetings concluded with a ritual of collective speculation. Each ADSF employee recorded his or her predictions for the following quarter's growth in a dozen metrics (e.g. traffic, new seller signups, and other forms of user engagement). Executives announced whose prediction from the last quarter had proven most accurate. These predictions were themselves a topic of discussion and competition throughout the quarter, with employees comparing their guesses to the company's actual performance.

In addition to quarterly reviews, speculative optimism was also institutionalized in smaller and more frequent rituals. The staff would gather every Friday afternoon for "demos," with each employee showing off something he or she had been working on over the past week. Each person's demonstration usually elicited "ooohs," "ahhhs," or congratulatory comments. These meetings often concluded with spontaneous applause and scattered pronouncements that it had been a "great week." Executives also frequently sent around e-mails marking new records or

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[16] Executives often shared positive news from meetings with important figures; in one all-office meeting, Carter told of an early backer who had lamented, 'I'm afraid I'm going to regret not having invested more' in AllDone.

milestones in metrics (e.g. matching more buyers and sellers in a week than ever before). Progress reports often concluded with statements like "we're just getting started," or hailing "the beginning of something very exciting," or the hashtag "Day1" (which conveys the same meaning).

Optimistic projections of data and excitement about the future were part of the fabric of everyday conversation around the office. Staffers frequently indulged in sharing what one employee dubbed "speculation porn" when imagining how much a forthcoming project might boost user activity. For example, Friday demos were frequently followed by boisterous, informal conversations about the potential impact of new projects. Many staffers were regularly absorbed in Vision's detailed, real-time tabulations of dozens of performance metrics. While I rarely chose to log into Vision myself, I found it easy to stay apprised of the company's progress by listening to frequent, impromptu discussions—involving nearly every team member at one time or another—regarding recent experiments and up-to-the-minute trends in traffic, engagement, or revenue.

News emerging from the bull market for tech startups also fed ADSF's culture of speculation. During my first visit to the office, the lunch table was abuzz with talk of recent startup acquisitions.

> 'Did you see the Yammer today?' Martin asks the gang, referring to the company's internal social network. It seems someone has posted a news story about Amazon's recent purchase of an online education startup. What's more, one of AllDone's direct competitors had announced two weeks earlier that they had been bought by a major retail chain. Adam says that it's great that companies in AllDone's "space" (market) are being acquired. That means there's a lot of interest, so AllDone could start to get offers. Plus, he noted, AllDone is already bringing in revenue—he predicts that by the end of the year they'll have netted $1 million. […] If they're making money and there's a lot of action in their space, Adam concludes, AllDone could even be in a position to receive and *turn down* offers.

Adam would later refer to the competitor's acquisition as "the best thing that could have happened to AllDone." Talk of other companies' funding, acquisition, and IPO announcements appeared to be common in part because staffers found it enjoyable. One night, when AllDone was on the cusp of receiving its first acquisition offer (which it declined), Adam, Vince, and I ended up staying at the office late into the night drinking beers and speculating about the future, with Adam declaring that "it's fun" to project the company's potential valuation and to imagine how AllDone would change if an acquisition were to occur.

The possibility that AllDone could join the ranks of Silicon Valley's tech titans was never far from some employees' minds:

> I ask Adam if he knows the password for our office's Skype account. He tells me where to find it and adds, "four billion." I am mystified by the number, not realizing that he referring to Skype's valuation until he follows up a moment later, remarking, "that could be us." If we could just get buyers to come back to our site a few times per month, he says, half joking, "we could buy Twitter."

Just around the corner from AllDone's office was another tech startup that, on the heels of Facebook's recent $1 billion acquisition of Instagram, the *New York Times* predicted may be "the next big thing" (Wortham and Perlroth 2012). During an in-office happy hour teeming with close

to 100 guests, Carter asked me if I wanted to hear some "startup gossip" about another company that was throwing their own party nearby:

> Carter tells me that they have recently been valued at $4 billion, making its 25-year-old CEO worth half a billion dollars. Carter says that a female friend of his runs a staffing agency that typically places "hot girls" in executive assistant positions. At a recent party, this friend of his sent one of her "girls" over to chat up this newly wealthy CEO. The CEO ended up asking her out on a date to the movies. She was underwhelmed by the idea, but assented, only to discover as she arrived that he has rented out the entire theater for their date. She was apparently impressed, in spite of herself. "That could be you someday," I suggest. Carter demurs, saying he'd be happy to just have a party like the one we were having now, but on a boat—and, he adds, he'd bet that someone in this room right now already owns one.

Carter's story underscores the fact that all around them, the young (mostly) men of ADSF could find examples of people like them who had struck it rich in tech, become important figures in the scene, and put their money to use in the service of extravagant lifestyles that included exciting sexual conquests and social events.

My conversations with colleagues, as well as many more that I overheard, confirmed my sense that most ADSF employees harbored the startup dream: That through a steady march to a successful initial public stock offering or the acquisition of the firm by a larger company, their jobs could make them millionaires. At times, employees openly fantasized about the lifestyles that AllDone's triumphs would enable: a house, a boat, parties, a chauffeur, or hired help to handle household chores. For some, this imagined future affected real-life decision-making: Adam maintained that he would wait until he knew the disposition of his AllDone stock before purchasing a home. As co-founder Carter once explained to me, a startup is 'just like a lottery ticket' insofar as 'you can make so much and you invest so little, so it's not like you're losing anything. I mean, with AllDone, I just think, what if I made a billion dollars? What would I do with it?' Holding a stake in a high-growth company made dwelling in the everyday gyrations of the data tantalizing and fun.[17]

Conclusion

ADSF's labor of innovation and culture of speculative optimism were both aimed at addressing valuation lag by bridging the gap between potential and profits. ADSF staffers orchestrated continual change in AllDone's product in an effort to demonstrate growth while

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[17] I do not wish to leave readers with the impression that there was no "underside" (Kunda 1992) to ADSF's culture of speculative optimism. In private, some employees occasionally groused about the performance of the company, particular projects, AllDone's leaders, or their colleagues, and at times some expressed skepticism about AllDone's long-term potential. As Van Maanen and Kunda (1989) have argued, attempting to assess the "authenticity" of the emotions expressed by individuals participating in an organizational culture can be a fruitless endeavor. The nature and depth of an individual's feelings are not static attributes, but instead are likely to vary depending upon the specific situation in which an individual finds herself (Larkey and Morrill 1995). Most ADSF employees—including this researcher— appeared capable of holding both skepticism and optimism simultaneously, even as they largely withheld public expressions of the former.

staying ahead of the competition. The firm's dynamism presented privileged workers in the San Francisco office with absorbing challenges and excitement grounded in the promise that AllDone could propel them toward new horizons of wealth, fame, and personal transformation. The team's culture of speculative optimism helped to build internal and external legitimacy in an organizational field rife with uncertainty.[18]

I have detailed how the data provided by Vision, AllDone's administrative dashboard, facilitated experimentation and excitement. Importantly, ADSF's organizational culture was also facilitated by what Vision *left out*. By design, Vision offered a limited view of the AllDone ecosystem. The system allowed developers and marketers see how their projects affected user activity in the aggregate—how each innovation moved the numbers up or down. Although members of the product team might occasionally conduct surveys of users, read user support e-mails related to new features, or invite a handful of people to the office for user testing or open-ended conversations, qualitative feedback was typically not the primary driver of product priorities. Individual stories were viewed as providing only anecdotal evidence. (This was a frequent source of frustration for ADLV's phone support agents—see Chapter 4). In the view of ADSF's product team, the most salient feedback from users—the truth—was typically revealed only in the digital traces that their actions left behind.

Vision facilitated the abstraction (Giddens 1990) of the concrete realities to which its metrics corresponded. The real people with real emotions and desires whose lives were affected by AllDone were held at a remove from the innovators who tinkered with the service that many had come to rely upon.[19] Technology also facilitated the abstraction of members of AllDone's remote workforce, toward whom leaders in San Francisco could feel "love" while simultaneously viewing employees as interchangeable and dispensable. (See Chapter 5.)

In this chapter, I have shown how the labor of innovation was concretized within a specific organizational context. In the subsequent chapters, I demonstrate how ADSF's labor of innovation transmitted VC pressure downward onto AllDone's remote workforce and users. Pressure from above manifested itself in the continual reconstitution of the organization of production processes to meet the shifting goals mandated by the company's progression through the VC cycle. In my role as operations manager and director of customer support, I was uniquely positioned to observe the human consequences of ADSF's numbers game. Workers in San Francisco, the Philippines, and the Las Vegas area experienced this flux differently according to their varied demographics, conditions of work, and position in the global economy.

Organizations face tradeoffs between devoting resources to exploring new opportunities and exploiting existing knowledge (March 1991). ADSF staffers were able to keep their eyes

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[18] Jasanoff and Kim's (2009:122) cross-national comparison of the development and regulation of nuclear power describes the national-level "sociotechnical imaginary" as a "cultural resource that enables new forms of life by projecting positive goals and seeking to attain them." AllDone's culture of speculative optimism constitutes an imaginary at the level of the corporation. This imaginary was productive insofar as, in raising expectations, it cultivated social and psychological investments in the firm's success among both internal and external audiences (see also Pollock and Williams 2010).

[19] It is common for high-tech firms to maintain some distance between users and software developers, who strive to develop generic solutions that will accommodate a diverse array of users' particular needs and desires (Pollock, Williams, and D'Adderio 2007). On another register, this distancing is remarkably similar to Snyder's (2016) observations of disembedding and abstraction in electronically mediated financial markets.

locked on the future because ADP and ADLV were available to deal with the present.[20] Members of AllDone's remote teams helped to enact experiments, performed a shifting array of experimentally validated processes, and attempted to manage users' emotional responses to change. Workers in the Philippines and Las Vegas enabled AllDone's rapid growth by absorbing the frictions that arose owing to the uneven development of relations between humans and machines.

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[20] One might also note that ADSF's culture of speculative optimism was itself enabled by the company's geographic division of labor: Lateral work relations and mutual excitement would have been difficult to sustain if the office were populated largely by support workers. On the other hand, if not for this spatial differentiation and concomitant labor-market arbitrage, the company would not have been able to afford to hire the vast majority of its complementary workforce.

Chapter Three
Phase I: Machine Lag, Computational Labor, and Familial Love

"We know what the future of local services is […]. […] But we're not the only people that know this is the future. And, more importantly, there's lots of people—smart, scrappy, and well-funded people—building our vision. […] Someone is going to do it. And it looks like it's going to happen soon. […] We just have to finish building faster than anyone else and we will win. We have to."

- Carter, AllDone President, in an e-mail to San Francisco staffers

"[A] man who wants to be treated as a 'master' must show he has the virtues corresponding to his status, and the first of these is generosity and dignity in his relations with his 'clients.' […] [T]he 'great' are expected to show that they are worthy of their rank by affording material and symbolic 'protection' to those dependent upon them. […] [T]he best way in which the master can serve his own interests is to work away, day in, day out, with constant care and attention, weaving the ethical and affective, as well as economic, bonds which durably tie his [clients] to him."

- Pierre Bourdieu, *Outline of a Theory of Practice* (1977)

When I began my research, AllDone executives had just secured the company's first round of venture capital funding. They planned to address valuation lag by taking advantage of their newfound resources, prioritizing the expansion of the staff and user base. Only by growing quickly could AllDone hope to secure the advantages that accrue to "first movers" in an industry that continued to welcome an ever-expanding array of competitors. Enlarging the four-person engineering staff would significantly increase AllDone's pace of innovation, enhancing the enterprise's ability to devise plans, run experiments, assess results, and implement changes to the product—activities which, over time, had the potential to realize returns for shareholders.

AllDone's software engineers were heavily involved in selecting their new colleagues, sacrificing their productivity to build the team. Reflecting on the first quarter of 2012, Josh, ADSF's product manager, reported that AllDone's engineers had "accomplished very little" in terms of their production goals because they had been "very, very focused on recruiting" activities that reportedly consumed at least half of their work time. The push for rapid growth created *machine lag*, as software developers' needs and imagination frequently outstripped the capabilities of technology and available engineering resources. To address machine lag, AllDone expanded its digital assembly line in the Philippines, where workers performed *computational labor* that stood in for software algorithms. Computational labor allowed AllDone to accomplish its goal of spurring substantial user growth in spite of the impediments to software production imposed by recruiting activities: during the first quarter of 2012, AllDone received almost 50 percent more consumer requests than it had during the last three months of 2011; during the second quarter, that mark increased again by 75 percent.

Confronting machine lag required a reliable, adaptable, and low-cost workforce. At the same time that AllDone built socio-technical infrastructure to agglomerate the efforts of distributed workers, it also built cultural infrastructure to sustain employee motivation and loyalty. AllDone Philippines' organizational *culture of familial love* shaped relations between workers and managers. Because they performed routine tasks, AllDone's workforce in the Philippines was largely insulated from the organizational dynamism orchestrated by software engineers in San Francisco. Drawing on schemas of clientelism familiar to a neo-colonial workforce, employees used AllDone Philippines' rhetoric of love, family, and gratitude to endow computational labor with meaning. ADP's organizational culture fostered trust and affective

attachments among employees and between Filipino workers and San Francisco-based managers, supporting both the stability that managers desired and employees' desire for economic security.

Process Engineering and Computational Labor

ADSF's labor of innovation was not accomplished solely through computer code. Instead, experimental features and ongoing procedures were often designed to be enacted through sociotechnical systems consisting of ensembles of computers and human workers. Members of AllDone Philippines labored alongside computer code, complementing AllDone's software infrastructure by adjusting or completing the output of software algorithms—and, occasionally, by helping to teach computers to replace themselves.

I use the term "computation" to refer to "the transformation of information by means of an algorithm or program" that "defines rules by which information will change" (Gershenson 2013:62; see also Michelucci 2013; Irani 2015a; Ekbia and Nardi 2017). Humans perform computational labor when they implement information-processing algorithms.[21] Computational labor can take a variety of forms: tasks might include "data mining," or gathering and recording information from unstructured sources; categorizing, labeling, or filtering out content including text, images, and videos; transcribing audio; and much more. To keep pace with the software algorithms it supports or supplants, computational labor is typically performed by large agglomerations of workers.

AllDone Philippines was comprised of 200 work-from-home contractors who were recruited, supervised, and paid through a digital labor platform called oDesk. Most staffers were college educated, and the vast majority were women between the ages of 20 and 40. Members of ADP were paid an average of $2.50 an hour (a figure that includes the wages of both employees and managers), and worked an average of 31 hours per week. Pay and working hours depended on workers' particular functions: some were paid by the hour, and others received a per-task piece rate; some were asked to log a particular number of hours at particular times and others were able to participate more flexibly. Workers were responsible for providing their own equipment and internet connections.

How, then, were ADP's individual workers transformed into masses of computational labor? The conditions for human computation were produced by a component of AllDone San Francisco's labor of innovation known as "process engineering." Members of ADSF would "establish process" by routinizing knowledge work so that it could be to be offshored to a distributed workforce. If ADSF's software engineers wrote code in specialized programming languages to guide the CPUs and servers powering the company's technological infrastructure, process engineers wrote code in plain English to guide the people who constituted what executives often called AllDone's "human machine."[22] Like software engineers, process engineers, too, crafted algorithms, or "sequence[s] of instructions that should be carried out to transform [any given] input to output" (Alpaydin 2014:2). And like computer code, the instructions process engineers wrote were designed to leave nothing to the imagination—for example, some might include graphical decision trees to help workers understand how to handle

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[21] Computational labor has also been referred to as "data work" (Irani 2015b) or "clickwork" **(**Bergvall-Kåreborn and Howcroft 2014).

[22] In my role as operations manager, I became AllDone's chief process engineer: one of my primary duties was to harness AllDone's human infrastructure to support ADSF staffers' projects.

all foreseeable contingencies. Instructions were typically provided in text, sometimes with supplemental photo or video guides. With every operation explicitly detailed, workers became nearly as interchangeable as CPUs in a network, with each person developing approximately the same interpretation of each task. Process engineers' algorithms were "debugged" by managers in the Philippines who reviewed each task and posed questions that helped process engineers clarify their instructions before they were distributed to team members for human computation. Organizational hierarchies maintained distance between computational laborers and the engineers whose projects they served, with ADP managers fielding questions from team members and providing guidance, reducing the number of queries that made it to San Francisco. Establishing process allowed Filipino workers to function as computational infrastructure on a digital assembly line.

Computational labor complemented software systems in three ways. In some instances, workers' tacit skills gave them an advantage over computer code in performing *non-routine tasks*. In other cases, the company relied on *reverse substitution*, using workers to imitate software algorithms that otherwise would have been too costly or time-consuming to produce. Additionally, some ADP staffers provided *workarounds*, performing routine tasks to subvert systems designed to detect software automation.

Non-routine Tasks

One reason that AllDone complemented software systems with human workers was because people possessed competencies grounded in tacit knowledge that could not easily be programmed. For example, ADSF turned to Filipino workers to undertake a marketing project that software alone was ill-suited to handle. AllDone focused its buyer acquisition efforts on "search engine optimization" (SEO). SEO describes a set of techniques designed to bump a website's pages to the top of search engine results. One way that websites can enhance their standing in search engine results is by obtaining incoming links from other websites—particularly from websites that search engine companies believe are widely respected by web users. In early 2012, ADSF conducted a survey of AllDone sellers about the local business environments in which they operated. The company then packaged the survey results on its website and tried to get other websites to link to those new pages. AllDone paid a public relations firm $30,000 to assist with outreach to news organizations.

Simultaneously, two ADSF managers orchestrated a "data mining" experiment to find out whether a combination of technology and workers could outperform the professional PR firm. Managers in San Francisco asked Christine, a team leader in the Philippines, to recruit two-dozen workers to join a temporary survey team. The ADSF managers created detailed documents instructing members of this new team on how to systematically scour the web for the first and last name, e-mail address, Twitter handle, and organizational affiliation of every person and platform in the United States that might publish a story about local business issues. It would have been exceedingly difficult to teach software to accurately gather unstructured data from such a vast array of sources, each of which was formatted in a unique manner. AllDone's human workers, however, possessed a tacit understanding of how to identify the desired information, and could perform these operations with relative ease.

Team members accumulated and classified data about 50,000 journalists, bloggers, nonprofits, politicians, and think tanks, and recorded entries into a complex series of

spreadsheets. I then wrote detailed instructions for ADP survey team members to "clean" and standardize each entry to ensure that an ADSF manager could use an automated system to send each target a "personalized" e-mail pitch. ADP's survey team then recorded recipients' responses to ADSF's e-mails in the spreadsheets. Finally, I wrote instructions specifying under what conditions survey team members should follow up via e-mail or Twitter with contacts who had not yet responded. The experimental survey team logged over 11,000 human-hours of work over a span of 3.5 months. Their efforts were wildly successful, yielding hundreds of incoming links—50 times as many stories as had the PR firm that AllDone had retained for the same purpose, at one-third of the cost.[23]

After the survey project demonstrated ADP's functional and numerical flexibility, members of ADSF began to imagine new tasks requiring tacit knowledge that could be completed by human workers. When the survey project was completed, the team that had powered it was disbanded as easily (from the perspective of ADSF managers) as it had been summoned, with some team members dismissed and others transferred to positions in other teams. However, the experiment proved so powerful that other members of ADSF were soon asking me to devise algorithmic instructions for their own "special projects" to take advantage of ADP's human computation. For example, I established a process through which members of ADP would promote job openings at AllDone by gathering contact information for and reaching out to college computer science programs. I initially offered such projects on an ad-hoc basis to ADP team members who wanted more work, but later Christine was asked to reconstitute her group as a permanent special projects team. ADSF staffers could call upon this group's efforts whenever they wanted to quickly and cheaply execute a "random" data-gathering or -processing task without using up or waiting for scarce technological resources. Just as software engineers often rely on "software-as-a-service"—integrating other companies' ready-made software products into their own code—all of ADSF could access ADP's "humans-as-a-service" (Irani 2015a), using a flexible, on-demand workforce to pick up or drop projects at a moment's notice. Managers encouraged all ADSF employees—from software engineers to the office manager—to "outsource" as many tasks as possible. As Martin wrote in my first performance review:

> [I]f you spend all your time on grinder projects that take many hours, we lose you for other projects that could be equally valuable for you to work on. You should always think about how you can set up a process, delegate to someone else (an outside contractor or someone on ADP/ADLV), and move on.

Offloading "grinder projects" to ADP had two benefits for ADSF. First, "outsourcing" freed more costly workers from routine tasks, thereby allowing them to spend more time on more "valuable" work. Second, ADP altered ADSF employees' vision of technology's horizons, expanding the company's scope of action by unlocking innovative schemes like the survey project that could be completed quickly, cheaply, and effectively only by an agglomeration of human workers.[24]

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[23] AllDone's distributed workforce performed a variety of other nonroutine tasks to complement software. These included reviewing seller profiles and removing those that violated AllDone's community guidelines; proofreading and editing the text that sellers wrote on their profile pages to ensure they met a minimum editorial standard of professionalism; and sending largely standardized replies to users' customer support e-mail queries.

[24] AllDone's software engineers not only experimented with code, but also experimented with labor to increase the pace of production. The nature of software work is altered when engineers have access to

Reverse Substitution

Conceptualizing, developing, testing, and refining complex software algorithms is a costly and time-consuming process. Even when software could technically be crafted to handle a task, AllDone's small team of software engineers often believed that the resources required to code and implement it would be prohibitive or could be better allocated elsewhere. In these instances, developers relied upon *reverse substitution*, stripping routine computation work from computers and displacing it onto workers. These workers stood in for software algorithms not because full automation was impossible, but because developers believed that achieving it would be inefficient. Whereas machine learning uses computational "brute force" to simulate human cognition, reverse substitution simulates software algorithms, replacing them with the "brute force" of large-scale, routinized labor processes.

Because AllDone's SEO strategy was yielding an ever-increasing volume of buyer requests, the company had to connect far more buyers with sellers than ever before. Indeed, AllDone's core function as a broker was to link potential buyers with sellers of local services. However, AllDone's developers chose not to develop software algorithms to perfect this process. Instead of devoting scarce engineering resources to matching, AllDone maintained a staff in the Philippines to manually construct every introduction.

Members of ADP's matching team used a web portal that displayed the details of each buyer request. They began by vetting requests and deleting those that appeared to be fraudulent (e.g. a request placed by "Mickey Mouse"). Team members were then provided with a list of local AllDone sellers who might be eligible to receive the request because they worked in related service categories. Workers would select all of the sellers who they judged to be an appropriate match, and the sellers would then be automatically notified via e-mail and/or text message of the incoming request. AllDone's users would never know that human workers, rather than a computer algorithm, had handcrafted each introduction. To keep up with the rapid rise in request volume during the first half of 2012, the matching team's managers more than doubled the team's size, increasing it from 30 to 68.

If in some instances software engineers used reverse substitution to manage long-term organizational processes, in others reverse substitution was deployed to reduce the engineering burden that came with developing new and experimental product features. ADP employees enacting reverse substitution often supported what software engineers referred to as "quick and dirty" tests. By manually executing algorithmic tasks, they provided proof of concept before developers invested time and resources in devising elegant software solutions. In one such case, members of ADP were used to test whether it would be worth an engineer's time to "code up" a new product feature. ADSF's product team wanted to determine whether providing a link to a seller's profile on Yelp (a consumer review website) would increase a buyer's likelihood of contacting that seller. Yelp offers developers tools that allow them to embed Yelp users' business information directly into their own websites. However, Bill, the engineer in charge of the project, preferred not to spend his time learning how to use Yelp's tools without first knowing whether or not the new feature was likely to succeed. He devised a test whereby members of ADP substituted for software algorithms by manually searching for 9,000 sellers on

computational labor. Developers who outsource the most tedious tasks are able to innovate more quickly, making their work more "creative," both symbolically and, arguably, in practice (Irani 2015b).

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Yelp and gathering information about their user profiles. Bill experimented with putting some of this information on relevant AllDone pages, and, upon finding that that it did not have a statistically significant effect on buyer behavior, abandoned the test. By using workers to stand in for software infrastructure, Bill was able to save valuable engineering time that otherwise would have been wasted learning how to use development tools to conduct a test that was destined to fail. ADP's reverse substitution helped AllDone address the tension between exploring new opportunities and exploiting existing knowledge (March 1991). Substituting humans for computer code allowed ADSF's engineers to offshore processes aimed at adapting the firm to present needs, freeing up costly and scarce engineering resources to pursue new opportunities to produce value.[25]

Workarounds

Users do not always passively accept technological innovations; instead, they often develop interpretations of and adaptive responses to technology—also known as "workarounds"—that can undermine designers' intentions (Zuboff 1988; Lim, Dey, and Avrahami 2009; Yang and Newman 2013; Lee et al. 2015).[26] At AllDone, workarounds combined elements of reverse substitution and nonroutine tasks. Like reverse substitution, the efforts of employees providing workarounds stood in for software algorithms that technically could have been created to perform a task. In these cases, routinized human labor possessed a comparative advantage over computer code because workers' performance of tasks using tacit knowledge allowed them to subvert a system designed to detect and prevent software automation that followed precise rules.

ADP's writing team helped AllDone work around the systems that search engine companies implement to prevent web developers from "gaming" their search algorithms. In addition to accruing incoming links from other websites, another SEO technique is to create web pages rich in the "keywords" that potential users are likely to search for (e.g. "best locksmith," "affordable tutor"). Ideally, AllDone's software engineers would develop software algorithms to add vast amounts of keyword-rich text to their webpages. However, this strategy was deemed too risky because search engine companies deploy their own algorithms to detect auto-generated SEO text and penalize websites that attempt to "game" their systems by posting artificial content.

Given the risks of automating SEO content generation, AllDone instead built a writing team in the Philippines to help the firm attract buyers. A software engineer set up an administrative portal that would show writers descriptions of AllDone sellers and the most popular keywords for the services they offered. Every month, ADP team members wrote approximately 50,000 keyword-rich descriptions of the services that sellers offered, which ADSF

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[25] Other examples of reverse substitution included: screening out sellers who appeared on the Department of Justice's national sex offender registry; adding badges to profiles that passed a series of verifications; checking sellers' professional license numbers against relevant state databases; running voluntary criminal background checks; and sending personalized e-mails apologizing to buyers whose requests received zero quotes from sellers.

[26] Some Uber drivers, for example, become frustrated by the lack of transparency into the algorithms that assign passengers to drivers. In response, drivers attempt to decipher and then "game" the system by developing alternative behavioral strategies that subvert the patterns implemented by Uber's software (Lee et al. 2015).

engineers then added to thousands of automatically generated pages. During the second quarter of 2012, the writing team almost doubled its output as its managers in the Philippines opened 16 new positions (growing from 37 to 53) and implemented a change in the team's pay scale (from an hourly wage to a piece-rate) to boost productivity.

In sum, during the first phase of my fieldwork, AllDone confronted machine lag as software engineers' vision outstripped the limitations of technology and the organization's resource deficits. The company deployed functionally and numerically flexible computational labor to support growth and innovation, complementing software algorithms by enacting non-routine tasks, reverse substitution, and workarounds.

A Site of Stability in the Permanently Beta Organization

The disruptive innovations emerging from AllDone's San Francisco office were predicated on the stability of AllDone Philippines. ADP's reliable, low-cost, and scalable workforce supported the day-to-day functioning of the website and executed short-term projects. ADP employees completed over 10,000 micro-tasks per day, allowing ADSF's software engineers to focus on designing and implementing new product features.

Although the tasks executed by members of ADP were varied, most shared three characteristics. First, the work was tedious. Employees typically performed a small set of operations over and over again; some might perform their assigned tasks for 20 to 40 hours per week over a period of months or even years. Second, most of ADP's tasks were "back-office" operations—only about 10% of employees held customer-facing jobs involving responding to user e-mail queries. Third, workers were expected to be functionally flexible. Staffers could adapt to changing conditions more rapidly and easily than software alone, quickly moving from one task to another to support new experiments or the company's shifting strategic needs. ADP's managerial infrastructure also provided numerical flexibility, with systems in place to facilitate rapid recruitment to meet new demand.

ADP's flexibility realized its value to the company only insofar as the team was capable of delivering reliable performance. Because remote workers were charged with executing core functions of the product (including matching buyers and sellers, a high volume of which had to be completed during U.S. business hours) and supporting the firm's most important goals (like growing the user base via search engine optimization projects, or supporting experimental product features to speed the company's growth), it was important for their work product to be of a consistently high quality. Additionally, AllDone sought workers who were available during the particular hours or project periods when the company needed them. Failure to log the expected number of hours was in fact the most frequent reason for dismissal from ADP. If too many workers were insufficiently committed to their jobs, ADP's output could hamper the company's day-to-day operations and ability to meet its strategic goals.

Unlike firms that source largely anonymous online workers from spot-markets like Amazon Mechanical Turk to complete similar "micro-tasks" (Bergvall-Kåreborn and Howcroft 2014; Irani 2015a), AllDone built sociotechnical systems designed to incorporate workers who were treated as long-term "team members" and trained on AllDone's proprietary administrative systems and procedures. AllDone agglomerated individual workers distributed across the Philippines into a coherent socio-technical infrastructure (Star and Ruhleder 1996) whose smooth functioning managers could take for granted. AllDone Philippines constituted an

organizational substrate that could be "worked *through* not *on*" (Irani and Silberman 2013:613), running in the background as an ever-present computational resource.

In the remainder of this chapter, I argue that the reproduction of ADP's adaptable, reliable, and low-cost workforce was not achieved automatically through its use of technological platforms. Instead, AllDone secured Filipino workers' effort and loyalty by providing good pay, stable jobs, and a symbolic terrain that emphasized the mutual commitment between employees and the company. I begin by outlining why management chose to source Filipino workers to perform computational labor. Next, I describe the material conditions of labor for ADP employees, discussing how the company's provision of stable jobs that workers viewed as superior to local alternatives helped to cultivate employee loyalty. Then, I examine how ADP's organizational culture of familial love was integral to the creation and maintenance of relations between humans and technology, and employees and managers. Finally, I examine how external normative orders including the Philippines' history of colonialism and patron-client relations shaped interactions between members of ADP and ADSF. Members of both teams collaborated to produce a culture of familial love and a vision of the happy Filipino worker. Doing so supported ADSF managers' goal of bolstering the stability of the operation amid rapid growth, and ADP employees' goal of preserving valued jobs and economic security.

Labor Arbitrage: Locating Computational Labor in the Philippines

ADP was launched just months after AllDone began its operations, when the company's co-founders encountered an unanticipated problem. They found that many of the sellers who signed up to use AllDone were likely far better at their jobs than they were at using proper spelling, grammar, and punctuation in describing the services they offered on their AllDone profile pages. After copy-editing seller profiles themselves, the co-founders decided to seek outside assistance by posting a proofreading gig on a digital labor platform called oDesk. Freelancers bidding on the job hailed from the U.S., Jamaica, India, and the Philippines. Carter asked each of the applicants to complete a sample set of tasks so that he could assess the quality of each applicant's work in light of his or her speed and asking price. Carter would later recall that the applicant who possessed the best English-language skills, performed the task most quickly, and presented herself in the most professional manner happened to be a young woman in her mid-20s living in the Manila metro area. What's more, Veronica had asked for 90% less pay than had the American applicants. Carter called this discovery a "mind-blowing, jaw-dropping moment" that led him to realize that "there is so much opportunity here [in the Philippines]." "I want to hire you, your friends, your family, everyone you know," he recalled telling Veronica, half-joking.[27]

Over time, AllDone expanded a Filipino labor force that managers in San Francisco perceived as hard-working, courteous, and relatively inexpensive. The Philippines' legacy of American colonial rule, combined with its position as a developing nation in the global economy, make it an attractive site for U.S.-based companies wishing to offshore work. For decades, the American electronics industry has relied on the repetitive, low-cost, and often invisibilized labor of South Asian women in semiconductor manufacturing (Grossman 1979; Enloe 1984; Ferus-Comelo 2006; McKay 2006). Today, the Philippines has become a prominent destination for much of the high-tech "hand work" that supports American software products (Newcomer and

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[27] Friends and family members would indeed become a significant source of new recruits for ADP.

Dotan 2014; Shestakofsky 2015). Hiring Filipino workers via oDesk allowed AllDone to practice labor arbitrage, purchasing English-speaking labor-power located in a nation where it was relatively inexpensive (Beerepoot and Lambregts 2015; Graham, Hjorth, and Lehdonvirta 2017). Sourcing online contractors from a developing nation allows American firms to pay relatively low prevailing wages and evade employment taxes; to avoid overhead costs like office space, computer equipment, and internet connections; and to pay workers only when there is demand for their services.

The low cost of hiring workers in the Philippines allowed the company to undertake projects that otherwise would have been infeasible. During one dinnertime conversation, Carter explained how, without access to inexpensive labor in the Philippines, the jobs that they performed would not be moved to San Francisco—they simply wouldn't exist at all:

> '[Search engine optimization] writing, we wouldn't do. Categorization would be automated. So would [matching]. We just wouldn't do proofreading. Background checks—' Adam interrupts, 'We can already automate them. We'd just need to run a script to parse an e-mail. It's just not worth it because Team Philippines is so cheap.' Carter concludes that if AllDone hadn't been able to offshore so many tasks, virtually all of ADP's job functions would disappear, aside from 'two people making minimum wage in San Francisco answering [customer support] e-mails.'

Without ADP, ADSF would be forced to redirect some of its scarce computational resources and to abandon many product features. ADP's reliable performance of important tasks facilitated the company's expansion. While ADSF benefitted from hiring relatively inexpensive workers in the Philippines, many ADP workers, too, appreciated the stable employment that AllDone provided.

Skill Arbitrage: The Advantages of Digital Labor for Filipino Workers

If AllDone executives viewed hiring Filipinos as labor arbitrage, Filipino workers often viewed engaging in online work as skill arbitrage: Seeking employment via the Internet afforded them access to opportunities beyond those available in local labor markets (Graham et al. 2017). In 2012, over half a million Filipino college graduates were unemployed, representing about 20% of jobless Filipinos (Philippine Statistics Authority 2013). AllDone offered members of ADP an alternative to migrating overseas for work (Rodriguez 2010) and jobs with business process outsourcing (BPO) firms (Fabros 2016), both of which were among the most remunerative options available to college-educated workers (and even many with advanced or professional degrees). Loyalty to and identification with AllDone were founded in part upon the perception that the firm provided good jobs and stable careers. Although team members rarely spoke of loving their *work*, many frequently attested that they loved their *jobs*—that is, they appreciated the lifestyles that working for AllDone enabled them to experience.

During my first trip to Manila, Carter, Veronica, and I met with Paul, an assistant vice president at a major outsourcing firm who oversaw 500 call center employees. Paul told us about the attractive wages available to young Filipinos with the right skills—and also about the costs of working for American clients. Philippine call center agents usually work from 11pm to 7am, with commutes commonly stretching up to two hours. The work, Paul admitted, was taxing: absorbing abuse from customers, having one's calls listened in on by managers and one's weekly metrics dissected, and being graded on a bell curve contributed to an environment that workers often experienced as unsupportive. Like other call centers, Paul's faced high turnover; agents

displayed what he called a "mercenary attitude," with disgruntled employees always on the lookout for something new, or even for a similar job that would pay a little more. Managers scrambled to incentivize agents to push the numbers up to meet clients' expectations while constantly recruiting and training new workers to replace those who quit or were fired. The money was good for agents and managers, but the stress level for both was high. Fabros' (2009, 2016) study of outsourced call-center work in the Philippines documents these and many other sources of stress, anxiety, and burnout, including the continuous routing of calls, bridging geographic and cultural differences with customers who may exhibit anger, racism, or xenophobia, penalties for underperformance, graveyard shifts, and juggling the conflicting demands of company, client, and customer (see also Padios 2018).

Many ADPers who had previously worked in outsourced call centers attested that joining AllDone was a better option. ADP jobs often had better or more flexible hours than the call centers' unrelenting night shifts; the work was far less stressful because virtually none of the jobs required live interaction with customers; and getting to work was as simple as opening a laptop, as opposed to lengthy commutes through chaotic and choked streets on crowded jeepneys. As opposed to most other "online jobs" posted on oDesk, AllDone offered the security and stability of full-time work rather than a short-term gig. Like BPO employers, ADP managers had access to a suite of electronic surveillance software to monitor workers' performance (Messenger and Ghosheh 2010). In practice, however, supervision at AllDone was relatively lax. Employees were overseen remotely via managers' observations of performance metrics and "work diaries" (intermittent webcam photos and screenshots captured by oDesk), and supervisors issued weekly or monthly reports comparing team members' output. However, workers were rarely required to meet explicit performance benchmarks.

The fact that ADP was an in-house team also reduced pressure on workers. Unlike BPO firms that provide subcontracted labor to other companies, ADP team members were hired directly by AllDone via a digital labor platform whose fees were substantially lower than those charged by subcontracting firms. Additionally, workers were not burdened with meeting strict performance metrics dictated by subcontracting firms' contracts with clients (Sallaz 2015; Fabros 2016). Work was repetitive, but not Taylorized: there were no "time-study men" listening in on calls or hovering over employees' shoulders to identify and correct inefficiencies (Fabros 2016). In fact, ADSF software engineers rarely revisited processes once they were established, nor did they typically pay attention to feedback from ADP about how their administrative portals could be improved because engineers believed that doing so would distract them from their more pressing strategic goals.[28] The relatively low prevailing wage in the Philippines (team member rates averaged around $2 per hour) also made managers in San Francisco relatively unconcerned with squeezing additional productivity out of each employee. When a deputy manager proposed restricting her team members to one hour of paid time checking e-mail per week as a "way of helping out in minimizing costs," Carter replied that "It's totally fine for team members to spend some time each week chatting via email—there's no need for us to be stingy with that. It's not much money." Additionally, a growing workforce reduced the pressure on poor performers, while also providing employees with opportunities to secure jobs for friends and family members.

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[28] ADP's feature lists and requests for bug fixes were long ignored by ADSF engineers. My fieldnotes document many ADP requests that went unfulfilled, yet only one occasion when an ADSF engineer asked an ADP team leader for input on how a portal could be made to function more efficiently.

ADP also offered opportunities for advancement in a rapidly growing operation. Some of the team's most senior employees had been with the company for nearly three years at the time of my first visit, receiving periodic raises, loyalty bonuses, and promotions into supervisory positions. Such internal labor markets provide a source of "positive control" that can generate commitment by helping workers envision long-term careers within a company (Burawoy 1979; Edwards 1979; Kunda 1992; Snyder 2016).

Additionally, participating in ADP provided unique opportunities for women. Working from home for AllDone allowed mothers to balance income generation, independence, and valorized connections to Western culture with identifying as a housewife and enacting the traditional feminine virtues of caring for children and performing domestic chores (Parreñas 2015).[29] Malinda was typical in this respect. Trained as a nurse, Malinda had been unable to find employment in her field in the Philippines, so she worked at a Baguio call center for three years booking appointments for American doctors. When I met her she had been working for AllDone for nearly two years. She now began her workday at home at 3 a.m. (For those accustomed to working in the BPO sector, it did not seem unusual to wake up in the middle of the night to log in during peak U.S. hours.) Some hours later Malinda would log off to make breakfast for her two children and see them off to school; she then logged in again until they came back home for lunch. Malinda got some more work in here and there between napping in the afternoon and preparing the family dinner, and went to sleep at 10 p.m.

Working for AllDone also provided an attractive alternative to the common practice of seeking work overseas (Rodriguez 2010). On my first trip to the Philippines I met John, a man in his late 40s with a broad smile who was always ready with a joke. Over dinner one night, John told me that he had spent a total of ten years working in the Middle East as an Overseas Foreign Worker. He later traveled to the U.K. on a tourist visa and worked illegally as a janitor at a London hotel, and then for six months at a senior care facility in Aberdeen. John told me he considered his job with AllDone "a blessing" because it let him live at home in the Philippines. I sat next to George, 32, on a bus ride following an AllDone party in Manila. George had spent six years working as an administrative assistant in Bahrain before returning to the Philippines and finding work with AllDone. He told me that he was thrilled to be able to work from home in the Philippines—as a gay man, he found both Bahrain's extreme heat and social strictures to be stifling.

Others took advantage of the flexibility of online work by using AllDone as a means of generating supplemental income. The ranks of ADP staffers included call center agents, an air traffic controller, freelance web designers and software engineers, college students, and more. Jasmine was a university instructor who developed a heart condition that forced her to reduce her teaching, frequently leaving her homebound and depressed. Jasmine said that when she took a part-time position with AllDone, she was taken by her manager's enthusiastic e-mails and was pleased to discover that she could feel like she was a productive member of a community, a feeling that had been missing from her life since she developed her illness. In addition to saving some of her wages to begin construction on a small home, Jasmine was one of many ADP contractors who explained that they used their wages to support others: Jasmine sponsored meals, school supplies, and clothes for six impoverished children in a neighboring town so that they could attend school; another employee paid to remodel her family's home and to buy new

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[29] Lee (1995), Nadeem (2011), and Vijayakumar (2013) offer accounts of how women workers in other developing nations attempt to reconcile these tensions.

equipment for her father's business; and another said that he distributed 75 percent of his income to relatives, supporting his entire extended family.[30]

In some ways, however, digital labor presented workers with challenges and sources of precarity. Some of the most common complaints among ADP staffers stemmed from the fact that, as an "online" employer that was not formally established in the Philippines, paying Philippine taxes, or subject to Philippine law, AllDone did not provide proof of employment that would aid workers in gaining access to credit, nor did it provide health coverage or contribute to workers' social security accounts. Some employees experienced feelings of isolation in the "virtual" workplace and spoke of craving more in-person activities. Others asked for wage increases, an employee equity program, or opportunities for additional training and opportunities for career growth. ADP managers reported that their staffers often felt "bored" with their tasks, and some employees asked for "more challenging position[s]/task[s]" and job rotation to stave off monotony. Working conditions could be poor, with some spending hours hunched over their laptops in bed, facing frequent interruptions in crowded homes, or dealing with intermittent power outages and inconsistent internet connections. And although many employees enjoyed some flexibility in their working hours, some were frustrated when management allocated fewer hours of work than they had expected, jeopardizing their ability to consistently provide for their families.

In spite of these complaints, however, employees generally reported satisfaction with jobs that they considered favorable in comparison to other options available in local labor markets (McKay 2006; D'Cruz and Noronha 2016). Attrition was low, with typically only a handful of ADP's 200 contractors leaving the company voluntarily or involuntarily each month.[31] Results from an internal, anonymous survey asked how likely ADP contractors would be to recommend working at AllDone to a friend. The average score was 9.5 out of 10, which Carter proudly declared was "even higher than Apple's." Both ADSF managers and ADP employees thus had an interest in maintaining strong, stable ties between employees and the firm. The shape of ADP's "frontstage" organizational culture reflected this common goal.

"AllDone Love": Culture in the Cloud

Before my first day in the ADSF office, I received an introductory e-mail from AllDone's co-founders welcoming me to the team. The message detailed the "first guiding principle at AllDone: **Play to win**: We're a professional sports team, not a family. We're not here to have a good season. We're here to win the Super Bowl." This statement reflected what I have called ADSF's organizational culture of speculative optimism, through which employees endowed organizational dynamism with excitement as they imagined that they could be on the verge of a monumental "win" that would transform their lives.

The e-mail also directed me to a reference guide for new employees, which included a link to a website maintained for prospective and current members of AllDone Philippines. I was surprised to find that what I saw there stood in stark contrast to the words used to describe AllDone San Francisco. Text on the homepage stated, "AllDone is more than just a job—*we're a*

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[30] See Parreñas (2015) and Menguito (2014) on the importance of fulfilling consanguinal responsibilities in Filipino culture.

[31] Many of those who were dismissed were new recruits who failed to log the expected number of hours or exhibited poor performance.

community and a family. We love our jobs and we love working with each other. And we hope you will feel the same way soon." I clicked on the video embedded in the page:

> Shots of hands pecking at computer keyboards are interspersed with scenes of beautiful, sunny beaches, dancers, food, and children playing. A Coldplay song with a vaguely "Eastern" guitar motif swells in the background. The production is slick and professional, akin to a tourism video.
>
> The scene shifts to a conference room, where Carter, a twenty-something white man in a gray V-neck tee, is addressing 20 or so Filipino employees in a conference room. They are mostly young and skew female, some fashionably dressed and others in baggy t-shirts. Carter is calling ADP "the magic behind AllDone."
>
> The soundtrack switches to U2's "Beautiful Day," and employees are shown laughing with each other, high-fiving and snapping pictures in the conference room and on the streets of a Philippine city. Individuals are also speaking directly to the camera in various indoor and outdoor locales, offering commentary about their experiences with the company: "I love AllDone"; "Love your job so that you don't have to work at all"; "I don't really recognize it as a job. I mean, whenever I get online, it's like saying 'hi' to my own family"; "AllDone is really a happy family"; "We are brothers and sisters in AllDone"; "Now that I've found a family in AllDone I don't want to leave." Toward the end of the video, stills of parents and children appear onscreen, and female employees testify: "I own my time, I have flexibility of time, I get to work whenever I want and how long I want"; "Working as a mom at home and with AllDone makes really my life as a mom easier. I can see my daughter anytime, kiss her, hug her"; "I get to enjoy the best of both worlds, being a mom and working at the same time."
>
> Another uplifting song, OneRepublic's "Good Life," begins to play. Carter returns to the screen: "We want people who are looking for a community, who are looking to work someplace for years." Employees offer more testimonials: "I really like and love AllDone so much, and I'm very willing to work for AllDone for the rest of my life" "I'm so excited that AllDone is expanding and giving a lot of opportunity for Filipinos"; "AllDone came and it changed my life"; "I'm so happy that I'm with AllDone, it's such a blessing"; "Everything that I am, it changed everything about me, and I can't imagine where I am right now without AllDone."

These materials displayed the three primary components of ADP's feeling rules (Hochschild 1983), which delineated an organizational culture of *familial love*. First, employees effusively expressed their "love" for the company, their jobs, and their colleagues. Second, employees were to envision themselves and their colleagues as loyal members of a metaphorical AllDone "family." Additionally, one of the benefits of working for the company was how it supported employees' actual family lives at home. Third, team members expressed gratitude: they were to be thankful for the opportunities their jobs afforded them, and for the "blessing" of holding a position that was "more than a job"—a vocation so meaningful that it didn't even feel like work.

As is common in small businesses, ADP's organizational culture evolved through the interplay of leaders' management philosophies and employees' interactions with one another (Diamante 2014). The rituals and practices associated with what managers and employees came to call "AllDone Love" emerged from relations between members of ADP and ADSF. ADSF managers viewed ADP's distinctive style of communication as having originated on the "virtual" shop floor as a creative response to computational labor. Veronica, ADP's general manager and first employee, recounted how, early in ADP's history, she was mortified to discover that a new hire was including rafts of emoticons and exclamation points in her e-mails to colleagues.

Veronica worried that Carter would find such messages "unprofessional," and that this judgment would reflect poorly on her leadership of the team. Instead, to her surprise, Carter informed Veronica that he "loved" the new hire's e-mails, and effusive expressions of sentimentality soon became a central feature of ADP's online communication. As the team grew, Carter helped ADP managers codify the team's "family values." He encouraged them to model aspects of their organizational culture on Zappos, an online retailer in the U.S. known throughout the tech industry for, as Carter explained in an e-mail, its uniquely "silly, upbeat, warm, family-oriented" work culture. Such demonstrations of AllDone Love differed sharply from the affective labor expected of ADSF employees. When Carter and I were traveling in the Philippines, he would frequently reflect on the contrast between ADP team members' expressions of gratitude and ADSF team members' willingness to voice their complaints openly.

ADP employees soon began to adopt the trappings of AllDone Love in their communications with each other and managers in San Francisco. Because they constituted a distributed workforce, the vast majority of ADP employees' interactions with colleagues occurred online. Many ADP staffers emphasized how online communications had contributed to their enculturation: In a survey of ADP employees conducted by management, one worker recalled that "[w]hen I was a newbie at AD, I remember that the first inkling I had of how AD's culture was, was by reading the emails and seeing how other AD members responded to emails."[32] Everyday communications among members of Team Philippines were often laden with ritualized professions of love, loyalty, and gratitude. Team members bombarded new hires with cheery and colorful messages welcoming them to the AllDone "family" and telling them how much they would love their jobs. Employees responded to e-mailed reports on ADP's performance with expressions of breathless enthusiasm, as in the following three examples:

> I am very inspired! 😄 Thank you so much Ma'am Veronica! WE WUV YOU so much! 😐 😃Cheers to more AllDone years! 🍺

> Thank you for this inspiring e-mail, Veronica!!! 😐 😃 So happy to be a part of this wonderful family!!! Praying for more better years to come!!!! 🔍🔍🔍

> AllDone is such a blessing
> I always thank God for it every morning 🙏
> AllDone is ❤️.
> Thanks so much for this amazing, wonderful job!
> More AllDone ❤️ and happiness this [year], rockstars! 🍺

When employees received promotions, bonuses, or recognition, they would typically e-mail their supervisors in the Philippines, as well as managers in San Francisco, to praise them for being "GREAT BOSSES" and thank them for the opportunity to work for AllDone. In their frontstage

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[32] Prior research on virtual work teams supports the notion that ADP's style of expressive communication could serve important practical functions for the organization. Including non-work content in e-mails and communicating enthusiasm are among the behaviors that have been shown to foster trust and commitment among "virtual" work teams (Jarvenpaa and Leidner 1999). Additionally, in a survey study of Filipino workers, Restubog and Bordia (2006:579-80) found that employees who felt stronger "family-oriented feelings" in the workplace were more likely to align their behavior with organizational goals.

communications, ADP team members constructed an image of the happy Filipino worker—an image rooted in the nation's historical legacies of patron-clientelism and colonialism.

Filipino Work Cultures in Context

Organizational cultures—"pattern[s] of shared basic assumptions" that posit "the correct way to perceive, think, and feel in relation to [organizational] problems" (Schein 2004)—can guide the sentiments and activities of organizational members as they pursue shared goals. "Strong" cultures consist of "rules for behavior, thought, and feeling" that in the aggregate constitute a "well-defined and widely shared 'member role.'" Organizational cultures can thus serve as "the context of [a company's] work life, a set of rules that guides the relationship between the company and 'its people'" (Kunda 1992:7). Companies that promote strong cultures attempt to imbue work "with a deeper personal significance that causes people to behave in ways that the company finds rewarding, and that require less use of traditional controls" (p. 10). The organizational culture that emerged in ADP supported a goal shared by both the firm and its employees: knitting distributed workers into a stable and reliable team.

Following Van Maanen and Kunda (1989), in analyzing ADP's organizational culture, I intend to put aside questions pertaining to the "authenticity" of Filipino team members' emotional displays. Emotional expression can be particularly complex when traversing power differentials, as material support and affective attachments are often intermingled in patron-client relations. In a study of international NGOs operating in Malawi, Swidler and Watkins (2017) describe the "romance" involved in both the patron's and the client's imagination of relations in post-colonial settings where both parties desire something of the other. Rather than "categorically opposing practical and material desires to emotional ones" (Constable 2003:117) and positing that organizational members gin up emotional performances to meet purely instrumental ends, we can instead follow the multifaceted linkages between political economy and affect, examining how the emotional display at gatherings of ADP workers and ADSF managers were co-produced to achieve particular aims within the context of historical ties between the U.S. and the Philippines. Examining ADP's organizational culture as a performance allows us to consider how managers and employees constructed emotional displays and how these displays supported a hegemonic order that ensured the smooth functioning of AllDone's product, stable employment relations, and good jobs with economic security for Filipino workers.[33]

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[33] After 31 days of fieldwork in the Philippines, my everyday experience working closely with ADP managers via videoconference, e-mail, and chat, and conversations with team members that continued in the months and years after I left the company, I am confident that, as in many other organizational settings, the emotional displays exhibited by Filipino workers corresponded to varying degrees with workers' inner affective states. Although sentiment and emotional expression in the workplace are deeply influenced by organizational expectations, they are of course not exclusively determined by employer dictates (Kunda 1992). Both employees and managers abide by feeling rules that can blur the "authenticity" of sentiment (Hochschild 1983). Even when participants are aware that they are engaging in "deep acting" and "role embracement," the emotions that they experience may be no less "real" than those experienced in other social settings (Goffman 1959; Van Maanen and Kunda 1989). The meanings that members derive from participating in organizational cultures are not fixed, and can vary from situation to situation (Larkey and Morrill 1995). For example, paeans to the corporate community may elicit a jaded response from an employee when her manager asks her to work over the weekend, while

American electronics firms employing feminized workforces in South Asia have long devised managerial regimes designed to appeal to managers' perceptions of local cultural principles of family (Grossman 1979; McKay 2006). In its Philippine operations, AllDone, too, conformed with norms of familism that organizational psychologists have found to be prevalent in Filipino workplaces (Jocando 1999; Restubog and Bordia 2006; Hechanova, Teng-Calleja, and Vilaluz 2014). In workplaces that abide by principles of familism, interpersonal relations and communication emphasize mutuality between management and employees. Subordinates offer loyalty, respect, and obedience to leaders, who in turn may take on a paternalistic role akin to a "benevolent autocrat" who supports, protects, and cares for employees (Franco 2014:12). In such settings, employees may be less prone to discuss conflicts openly, preferring instead to preserve harmonious interpersonal relations (Bernadas and Flores 2014).[34]

The functioning and content of ADP's organizational culture of AllDone Love were inseparable from the United States' and the Philippines' intertwined historical and geopolitical legacies. In the Philippines, norms of workplace familism are imbricated in the circulation of discourses and practices associated with a history of colonialism and clientelism. Spanish and U.S. colonialism, as well as post-independence Filipino politics, drew on the notion of an idealized, "benign" hierarchy that ensures that benefits are transmitted from the upper reaches of the society to the bottom (Rafael 2000; Go 2008). Clientelism refers to a relationship "in which an individual of higher socio-economic status (patron) uses his own influence and resources to provide protection or benefits, or both, for a person of lower status (client) who, for his part, reciprocates by offering generous support and assistance, including personal service, to the patron" (Scott 1972:92). Such "instrumental friendship[s]" are structured by enduring power asymmetries, though it is important to note that "even highly constrained clients can sometimes turn the terms of the relationship to their advantage" (Hicken 2011:292).

Both ADSF managers and ADP workers came to express the view that AllDone Love was concordant with preexisting local norms. In a message to San Francisco staffers, Carter posited that Filipino team members were predisposed to conform to an organizational culture of familial love: "We can in no way take all the credit for the amazing culture on Team Philippines. Much of the warmth and generosity is deeply engrained in their culture. We've just promoted and amplified and institutionalized it." Workers themselves often identified with these supposedly national attributes, embracing them as sources of dignity and meaning (Rodriguez 2010). In their responses to surveys conducted by management, some employees explicitly cited ADP's resonance with what they viewed as characteristics of their national culture: One noted

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eliciting feelings of genuine connectedness when professed at a company picnic. Still, it remains difficult for me to draw definitive conclusions about the inner lives of Filipino workers, given how my access to workers' affective states was constrained by my elevated position as an American manager in the corporate hierarchy. My inability to understand conversations among employees conducted in Tagalog further limited my comprehension of the "backstage" of organizational life (Goffman 1959). In short, in many instances I was only able to observe acts of impression management in public encounters—what Scott (1985) calls the "partial transcript" of interactions between members of dominant and dominated groups.

[34] Deference can make subordinates less likely to share information that they believe leaders might find unwelcome (Swidler and Watkins 2017). Mangers in San Francisco generally appreciated this dynamic. Leaders remained distant from the everyday lived experiences of ADP workers and expressed gratitude for how ADP managers built processes that took work out of their hands and shielded them from having to deal with—and in many cases even know about—personnel issues involving individual ADP team members.

approvingly that AllDone adhered to "true Filipino values that are essential in a workplace." During my visits, some workers proudly quoted the Philippine Department of Tourism's new slogan, "It's more fun in the Philippines," when explaining that Filipinos were rightfully known for being friendly, happy, and welcoming.

These perceptions accorded with an image of Filipino workers that has achieved global currency. The Philippine state's labor migration bureaucracy—an important pillar of the national economy—has long marketed its workers' purported positive attributes to other nations (Rodriguez 2010). According to advertising materials, Filipinos' national culture endows them with a strong work ethic and patience that make them particularly docile and employable. Veronica reflected these stereotypes back to an American reporter when she was interviewed for a story about AllDone. "Filipinos love guidelines," she told the reporter. "Filipino workers do what they're told […]. [T]hey're pretty submissive. I'm not saying it in a—submissive is not a good term generally, but I hope you get my point, they will do what they are asked." The expectation that subordinates will defer to those with higher levels of authority and status are imbricated in the Philippines' colonial history, which required performances of deference to Western powers (Rafael 2000; Go 2008). Such performances were on vivid display during cross-cultural encounters between members of ADSF and ADP.

Wage-Labor Meets Clientelism

ADSF managers believed that creating positive emotional experiences for ADP team members was crucial to generating commitment. Executives envisioned ADP's organizational culture as a sort of compensation for work that they imagined might otherwise feel isolating, alienating, or meaningless. Because AllDone was relying on an ever-expanding team in the Philippines to support its growth, managers believed that it was important for the company to ensure the happiness and loyalty of ADP employees.

ADSF managers planned occasional visits to the Philippines to advance this goal. Less than four months into my tenure at AllDone, I joined two of AllDone's co-founders, Carter and Martin, on my first of three trips to the Philippines to visit team members. As we prepared for our journey, Carter explained to Martin and I that the purpose of the trip was not to conduct business meetings. Instead, the three of us, along with ADP's general manager and at times other members of the ADP leadership team, would travel from city to city hosting parties for the workers who lived in each region. (In ADSF, team members convened for quarterly parties, but each these events were preceded by an afternoon-long meeting spent discussing the business. Team members representing each division dissected metrics, presented information about past performance and future goals, answered questions, and debated corporate strategy.) As Carter detailed in e-mails to the ADSF staff, one of our primary goals was to build camaraderie among Filipino team members who rarely, if ever, saw each other in person. "[G]etting team members to meet each other" would encourage them to "treat AllDone more like an offline job than an online one," helping "to foster community and relationships so they see AllDone not just as a job but a place where their friends and family work." The meetings were thus designed to build workers' emotional attachments to the firm and to each other. An additional aim of the trip was to "[b]uild love team-wide: Make everyone feel appreciated and loved from Team SF and from ADP [leaders]." Carter wanted us to make workers feel good about their jobs in spite of the fact

that they did what he called "unglamorous work," and to encourage team members to preserve the team's joyful culture as it grew.

During their visits to the Philippines, managers from San Francisco attempted to cultivate emotional bonds with Filipino workers. Informality, friendliness, and the elision of hierarchy were central to ADSF managers' interpersonal interactions with ADP employees during their visits. As in Bourdieu's observations of social life in Kabylia, at times members of the dominant group "mask[ed] the dyssmetry of the relationship by symbolically denying it in [their] behavior" (Bourdieu 1977:191). When I traveled around the Philippines with a small contingent from ADSF, we would typically arrive at each stop early in the day to hang out with team members who lived in the area. For example, this included visiting Manila's massive Mall of Asia, picking strawberries in foggy Baguio, or packing into a van to take in views of Cebu City from a nearby peak. ADSF managers typically avoided asking contractors questions about their jobs, and instead tried to learn about their lives outside of work, asking about their educational and work backgrounds, their families, and their hobbies. I was initially relieved that I would not be expected to discuss work activities with ADP staffers because I felt guilty that most were responsible for what I perceived at the time to be repetitive, mind-numbing operations. During a day trip, for instance, I was instead delighted to have a long conversation with an employee named Mac about topics including religion, philosophy, and literature. As one travel companion from San Francisco put it during my second trip to the Philippines: 'We just go to hang out. It's easier this way. People like to feel like they're part of the team.' ADP employees reciprocated, and were far more likely to inquire about ADSF managers' love lives than about their job functions. By orienting many activities around "friendship" rather than work functions, ADSF managers avoided drawing attention to status differentials that were associated with vast disparities in compensation and divergent job functions between the two teams.

At evening parties, however, managers took on a more explicit and ritualistic role as grateful patrons. Following a round of icebreaking games, Carter, Martin, Veronica, and I would deliver short speeches to the assembled team members touching on the company's progress and ADP's role in the company's success. Carter would explain that we hadn't visited the Philippines "just to eat, talk, dance, and have a fun time with you all."

> Martin, Ben, and I traveled 7,000 miles—halfway around the world—so we could each say "*mahal ko kayo*" [I love you all] and "*salamat*" [thanks]. Team Philippines does incredibly important work for AllDone, and Team Philippines is filled with incredible people and we wanted each of you to know how much we appreciate and love and care for you all.

Carter emphasized the lengths to which ADSF managers had gone not simply to thank workers for their efforts, but also to demonstrate managers' love and care for them. He would then marvel at the sheer volume of tasks that ADP staffers had performed and praise employees for being smart, talented, hardworking, and fun. Most important, managers emphasized, was how team members must be "guardians" of ADP's unique culture as the team rapidly expanded. "Each of us needs to keep living the AllDone values, like treating each other as family and sharing AllDone love, joy, and optimism every day," Carter pronounced. "And, even more important, we need to make our family values contagious so all the newbies are infected with our spirit as well." Veronica would deliver the concluding speech, saying that 'the theme of the night is how grateful we feel' and concluding with a smile and a glance toward Carter that "I'm sure we will be with AllDone for the long haul." Visitors from San Francisco would then circulate around the room and strike up informal conversations with team members. This required "code

switching" on the part of Carter, Martin, and me, as we took on manners of speaking and behaving that would have been out of place in the San Francisco office, liberally doling out hugs and expressions of gratitude to "family members." Members of the two teams ate, drank, sang, and danced together, and ended every evening with hugs and mutual expressions of love and gratitude.

Just as ADSF managers attempted to mobilize ADP's culture of love to build employee commitment, so too did ADP employees draw on the symbolic resources afforded by the company culture to reinforce the commitment of the bosses from San Francisco to the team in the Philippines. But whereas to ADSF managers' expressions of AllDone Love frequently obscured difference, ADP's performances often highlighted ADSF's benevolence and ADP's dependence on management.

San Francisco managers' attempts to reduce the apparent social distance between the groups often prompted responses from Filipino workers that reaffirmed distinctions between the two teams. After our visits, employees flooded the inboxes of visitors from San Francisco with messages thanking them for being "cool" bosses who would fly halfway around the world just to hang out with their employees as "friends" and get to know them as people; who were brimming with expressions of joy and enthusiasm when visiting their Filipino colleagues; who took the time to reply to ADP team members' e-mails and "like" their Facebook posts; and who recognized their contributions and reciprocated their expressions of "love." As two members of ADP, Terry and Zach, expressed via e-mail after a visit from management:

> Carter, Martin, and Veronica, no words can explain how huge a blessing you are to many lowly people like me. You have inspired so many lives. You're everything anyone could ask for in a boss. I know I can't say it enough, but each day I wake up, I keep thanking God for sending over what is now widely known as **AllDone love**. You three never fail to expound what that phrase means, and you've personally shown that to us during your visit. (Terry)

> A million thanks to [AllDone's co-founders] for continuing to provide Filipinos like me, opportunities to grow and prosper. The quality time that I spend with my wife and kids right now, it's priceless, and as I've said, I owe it all to you guys and AllDone. I hope that I can still contribute to AllDone's success in my own little way. (Zach)

Terry explicitly frames his position vis-à-vis management as "lowly" and heaps praise upon his bosses for their beneficence. Zack lauds AllDone's founders for bringing good fortune to Filipinos' financial and family lives while also expressing his obligation to dutifully serve the company "in my own little way" in exchange for the opportunities it has provided. These feeling rules received widespread recognition. In a survey that solicited ADP staffers' opinions about working for AllDone, some expressed dismay with colleagues who "forget to reciprocate" the company's generosity, or "forget to show how thankful they are" for their jobs. These staffers sought to cultivate ties with American managers by deploying schemas of debt and reciprocity that highlighted team members' social distance from American managers.

ADSF managers' habit of eliding inequalities between members of the two teams in interpersonal interactions enhanced my own comfort during my visits to the Philippines. However, I was surprised by the extent of ADP team members' expressions of adoration of the visitors from San Francisco, and found it quite unsettling. I felt as if Filipino team members sometimes treated Carter, Martin, and me as if we were celebrities. Every year, ADP staffers crafted elaborate video messages to mark the co-founders' birthdays. During our visits, team

members often welcomed us at airports holding full-color banners printed with our names and faces. After one party, local team members arranged for a surprise performance by a drum troupe and fire dancers in our honor. When we departed, ADP staffers gave us elaborate handmade scrapbooks to take home to San Francisco filled with adoring messages from the team.

These activities represented an undoing of the work of leveling that had provided me some measure of comfort during interpersonal interactions that were shaped by vast socioeconomic disparities. One member of ADSF who saw pictures of management's visits to the Philippines on Facebook suggested that our Philippine colleagues "worshipped" the managers from San Francisco. I couldn't deny that, from the remove of the ADSF office, appearances could suggest as much. After a party, an ADP team member named Joy texted Carter, "Wat u did for us is more than we cud ever ask. For many of us, just getting to see u visit us in person is a dream come true. Im not joking, i really heard team members express this behind ur back, hehe. Thank u so much for everything." Joy's message frames Carter's visit as a gift to employees in and of itself. I was disturbed by the notion that Filipino workers would cite simply seeing their American boss in person as "a dream come true" because this statement seemed to diminish the value of Filipino workers in comparison to the Americans, none of whom had made such a statement about their Filipino counterparts. In another post-colonial setting, Swidler and Watkins (2017:208) observe that "Westerners view patron-client ties as demeaning to the subordinate," whereas clients in post-colonial nations may view such ties "as empowering the subordinate because patrons have obligations to their clients" (Swidler and Watkins 2017). I have since come to understand Joy's message as an attempt to build emotional attachments to cultivate the commitment of powerful actors.

ADP's performance of the role of the deferential and grateful client contributed to how ADSF managers understood their relations with and obligations to ADP workers. The members of ADSF who had the most direct contact with ADP became emotionally invested in their Filipino colleagues. Each independently told me that one of the most painful aspects of the company's earlier financial difficulties had been drawing up contingency plans to lay off much of ADP. Online and offline, workers generally appeared to management as cheerful, eager (if sometimes shy in person), and pleased to do whatever was asked of them. Although they had never imagined that starting a company would entail building a remote workforce in the Philippines, Carter and Martin were proud of what they perceived as the happy, hard-working team that they had assembled, and gratified to be contributing to the economic well-being of so many workers and families.

Carter and Martin frequently elicited testimonials from workers about the impact that AllDone had had on workers' lives. These testimonials confirmed for members of ADSF that AllDone was transforming Filipino lives for the better. When Carter reported back to the San Francisco office about his first trip to the Philippines, he documented the stories he'd heard of the trials and tribulations faced by team members before they joined AllDone, and how, in the words of one employee, "AllDone has changed my life." Carter detailed narratives shared by a college graduate who had long struggled to find work, and a nurse whose salary quadrupled after joining AllDone, allowing her to achieve financial independence and purchase health insurance for the first time.[35] "At this point in the night, I was almost overcome [with emotion]," Carter writes before describing three team members who

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[35] Other common testimonials featured favorable comparisons between ADSF managers and prior bosses. Some workers told ADSF managers that in Filipino companies, employment relations were typically more overtly hierarchical and despotic than in AllDone. Some told us that members of ADSF treated

had taken some crappy, packed, un-air-conditioned bus 7 hours through winding, dirty roads across their island. They had spent a few days earnings to pay for their tickets. And there they were—not listening to me thanking them for writing thousands of blurbs for $2.50/hr—but I was listening to them thank *me* and thank *AllDone* for the wonderful opportunity we were providing them. "Every Sunday I go to church and I thank God for AllDone. AllDone has blessed our lives." They said it again and again.

"These guys live such hard lives" in comparison to Americans, Carter explains. "[I]t's hot, humid, congested, and dirty everywhere. They have no AC or privacy." After describing various indignities and iniquities suffered by team members, he concludes:

> And in the face of all this ugliness, they smile and are thankful for everything they do have. And, oh how thankful they are for AllDone. An employer who pays well and cares about me and invests in me and provides a community and an opportunity and rewards me when I work hard. If you've never had those things it truly must be a God send.

> If AllDone is as successful as we all hope, we'll create an amazing organization and we'll all make some money and have more freedom and luxury in our lives than we would otherwise. And that'll be awesome. But nothing—nothing—will give me more pleasure or satisfaction or *meaning* than to create an enormous, profitable company that employs thousands and thousands of wonderful, deserving people like this around the globe.

Carter appeared to feel some discomfort with employment relations at AllDone—when he praised members of ADSF for doing a good job, their wages did not enter the picture, but he was traveling around the Philippines thanking employees "for writing thousands of blurbs for $2.50/hr."[36] However, Carter describes feeling overwhelmed by their gratitude for their jobs and their appreciation of Carter's care, which seem to have dissolved his discomfort and redoubled his commitment to providing jobs for "wonderful, deserving people like this around the globe." Filipino workers' emotional display relieved Carter's guilt, reframed entrepreneurship as an act of altruism, and repositioned him as a hero in a "rescue narrative" through which affect is

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them with more politeness and respect than Filipino bosses they'd had in the past. One ADP manager claimed that in eight years of working at a call center, his boss had never personally thanked him for his efforts.

[36] Some other ADSF employees, too, expressed guilt about their relation to Filipino workers. On my way to the office one morning, I ran into Brett, a software engineer, as we both emerged from a subway station.

> As we're approaching the office, Brett asks if I've heard about his Philippines project. Yeah, I tell him, I saw that—normally I'd have handled it, but I was on vacation. I ask how it's going. "Great, great," he says. "We could have done it ourselves, but it was a really annoying task. I felt bad making them do it."

Brett expressed some discomfort with having sent an "annoying," repetitive task to be completed by Filipino colleagues, presumably because he imagined that they, too, would find it tedious to complete, or that they would be frustrated that the distribution of "annoying" projects only flowed in one direction: from San Francisco to the Philippines.

"constructed within a wider historical context of power relations" enfolding assumptions about and realities of gender, race, class, and nationality (Constable 2003:122).[37]

Martin's first visit to the Philippines appeared to have a similar effect on him. As he explained in a message to ADSF staffers:

> If this trip left one impression on me, it's just how much the work we do in SF has improved—sometimes dramatically—the lives of hundreds of people in a place most of us will never visit. The jobs we create improve the lives not only of our team members, but also of our team members' loved ones. […] I wouldn't be surprised if the earnings of our 175 team members are supporting 700 or 1000 people.

Inflecting wage-labor relations with patterns of clientelism supported the notion that, by practicing labor arbitrage to generate jobs that wouldn't otherwise exist, AllDone was simultaneously supporting its own growth and changing the world for the better. Sourcing employees via a global digital labor platform allowed AllDone to transcend geographic boundaries and to provide meaningful jobs to talented and hard-working people in the Philippines who might otherwise find it difficult to secure middle-class employment. Viewing themselves not just as employers, but also as benevolent patrons, was gratifying, helping ADSF managers assuage the guilt that might otherwise be associated with asking Filipinos to perform what Carter called "unglamorous work" at a relatively low wage.

The notion that AllDone treated its Filipino workforce humanely was also important to members of ADSF who never traveled to the Philippines. At one ADSF party, Paul, who managed marketing projects, asked me about my upcoming trip to the Philippines.

> I tell Paul about how we'll attend parties for employees in each of the cities we visit. The purpose of the trip, I explain, is that members of ADP see that managers from ADSF care about them as people. Most American companies in the Philippines subcontract, but we actually manage our own workforce there. Paul says yeah, they're actually part of AllDone. I say that these trips are a way for us to treat them like friends, like part of the team. Paul agrees and says we pay fair market wages in the Philippines. But, he claims, we could pay twice as much and the employees *still* wouldn't be as happy as they are now if we didn't treat them well.

Most ADSF employees were only vaguely aware of ADP team members' daily activities, but all could take pride in management's reports about the "happy family" that AllDone was supporting in the Philippines.

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[37] Unlike my colleagues, I was engaged in activities designed to sustain "professional distance" between my roles as researcher and participant (Anteby 2013). Still, even I found myself swept into feeling an outpouring of warmth—and even a sentiment that I recognized as "love"—for my colleagues. During my second trip to the Philippines, we gathered a group of team members from the Manila area for a sightseeing trip to the countryside. On the van ride back to Manila, I sat next to Mac, a colleague who was about my age. As he fell asleep and his head dropped onto my shoulder, I reflected on the powerful bonds that our trip was creating: "It feels like summer camp," I wrote in my fieldnotes, "creating closeness by taking people out of their everyday lives and putting them in close proximity to each other so they can experience new things together." As Rosabeth Moss Kanter (1983:203) explains, strong organizational cultures can offer workers "a high" that "may be the closest to an experience of 'community' or total commitment for many workers, a dramatic, exciting, and almost communal process brought to the corporation."

Members of AllDone Philippines reaped symbolic rewards for cultivating emotional ties with managers from San Francisco. Working for an American company was a source of prestige for Filipino workers. Since the colonial era, educational institutions and cultural products consumed in the Philippines have produced a fascination with Americans, marking whiteness as a measure of affluence, status, and superiority (Rafael 2000; Constable 2003; del Rosario 2005; Go 2008). During a lunch with several team members at a cafeteria in Cebu City, I sat across the table from Ross, an ADP manager in his early 20s.

> "Ben, can I ask you a question?" Ross says during a lull in a group conversation about music. Sure, I reply. People in the Philippines want to be like Americans, like Westerners, Ross says. Is there a country that Americans idolize? I say that Americans, too, are taught to believe that we're the best—and that I think this presumption of superiority can breed an ignorance that is dangerous, particularly in matters of foreign policy.

Later that week as our travels continued, I sat next to Ross on a bus and asked him a follow-up question.

> I ask Ross if he remembers our conversation about how Filipinos admire Westerners. What, I ask, do people think of Filipinos who work for American companies? Is there a status associated with that? Ross replies that when people see that you work for an American company, they assume that you're more educated.

This sentiment was also reflected in a conversation with another ADP manager, who told me that 'in the Philippines, people [generally] think Americans are good. They want to act like Americans, so if they hear Americans saying something, 95 percent of the time, if it sounds reasonable, they'll repeat it.' During each of the gatherings in the Philippines, ADP team members were eager to snap selfies with ADSF managers, many of which were quickly posted to social media platforms. Being seen as valued members of an American tech company, associating with white Americans, and publicly referring to bosses as "friends" appeared to impart some social caché for Filipino workers. In this sense, some ADP staffers may have experienced the blurring of organizational hierarchy as valuable and pleasurable.

Emotional bonds between ADSF and ADP team members could also have material consequences. For example, when AllDone's engineers threatened to automate ADP's most labor-intensive function—a longstanding fear for ADP employees—Carter and AllDone's CEO Peter worked for months to try to find another company that would be willing to absorb excess ADP workers whose livelihoods were at risk. Eventually, ADSF managers ended up finding new jobs at AllDone for most of the displaced workers. The emotional bonds cultivated during managers' visits to the Philippines played an important role in cementing their feelings of obligation to workers thousands of miles away.

Conclusion

During the first phase of my research, AllDone's executives hoped to take advantage of the company's first round of venture capital funding by increasing demand for the product. Software engineers prioritized building and expanding systems that drew new users to the website and facilitated their activity. Developers confronted machine lag, or gulfs between their

imagination and the realities of technology's limitations and the firm's scarce resources. They addressed machine lag by deploying computational labor in the form of Philippine workers who stood in for software algorithms by performing repetitive tasks that would have been costly, time-consuming, or impossible to complete using computer code alone. Some handled non-routine work and were shuffled between functions at ADSF's command. Others were trusted to complete vital, routine, labor-intensive tasks that were crucial to achieving company goals. ADP's computational labor on digital assembly lines increased AllDone's pace of innovation and growth.

Continuity theorists expect computers to replace humans in "codified, repetitive information-processing tasks" (Autor 2015b:248). At AllDone, however, resource constraints or the experimental nature of new product features could lead to the reverse outcome, with humans performing programmable digital processes by hand. The existence of software solutions did not dictate that they would be deployed at AllDone; instead, the direction of substitution depended upon the organizational context in which it was implemented. Computational labor aimed at addressing non-routine tasks, on the other hand, filled gaps in computational infrastructure at the frontiers of artificial intelligence (Gray and Suri 2017). One such application was to use humans' tacit knowledge to *subvert* other firms' AI. When software systems are designed to defend against algorithmic efforts to "game" them, human variability and imperfection may be able to circumvent software's strictures.

AllDone Philippines provided a stable infrastructure upon which members of ADSF could produce organizational flux through continual innovation and experimentation. Inflecting ADP's formal, contractual wage-labor relations with elements of clientelism supported the convergent needs of American managers who hoped to foster a reliable workforce, as well as Filipino workers' desire for economic security.

My primary concern has not been to ascertain whether or not the emotional displays associated with AllDone Love were "real" (Van Maanen and Kunda 1989), or whether or not participants found normative accounts of their activities convincing (Scott 1985). Instead, I have demonstrated how AllDone Love was strategically deployed by actors who were engaged in "reciprocal manipulation of the symbols of euphamization" (Scott 1985:309). Members of both teams played a game of emotional display intended to instill feelings of obligation in the other. These neocolonial bonds created the appearance of a win-win relationship: what was good for the business was good for workers, and what made workers happy made managers happy. Both sides had a common interest in euphemizing wage-labor relations—which can be laden with unsettling inequalities and destabilizing conflict—as patron-client ties. Rather than mobilizing new technologies often identified as shaping the future of work—platforms designed to facilitate the atomization and hyper-fragmentation (or "Uber-ization) of workers (Irani 2015a; Rosenblat and Stark 2016)—AllDone was supported in part by the sediment of relations that hearken back to pre-capitalist times, when subordinate classes were compelled to perform economic functions for dominant groups through longstanding authority relations and the marshaling of goodwill (Bourdieu 1977) rather than short-term labor contracts, algorithmic management, or the "dull compulsion of the market." In the case of AllDone, it appears that the dominant were eager to mystify inequality in part to assuage their own guilt. AllDone Love provided managers with the opportunity to transform their ambivalence into unambiguous altruism. Under these conditions, processes of racialization did not lead to a devaluing and dehumanization of workers that would render them expendable in the face of innovation and automation. Instead, workers mobilized

schemas of debt and reciprocity to instill in managers a sense of obligation to expand opportunities for an underserved population.

In ADSF, feverish innovation complemented a culture of speculative optimism. In the Philippines, where work was routine, employees drew on symbolic resources that emphasized their reliability and loyalty. Instead of making work meaningful through the elevation of masculine virtues of perseverance, bodily discipline, rugged individualism, and overwork as in male-dominated industries in the U.S. (Cooper 2000; Snyder 2016), ADP's organizational culture emphasized the feminine virtues of love, gratitude, and family.[38] This team, largely comprised of women, performed organizational "housework"—taking care of the everyday reproduction of the website while, in another nod to centuries past, working from their own homes—to enable the men of ADSF to produce products widely recognized as creating value. ADSF's sports team was supported by ADP's family. However, just as in ADSF, members of ADP viewed working for AllDone as holding the promise of something new and different, providing an alternative to both traditional workplaces and short-term online gigs.

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[38] In an e-mail to the ADSF staff, Carter reported that an ADP-style organizational culture was "too lov[e]y-dov[e]y for us (Team SF)."

Chapter Four
Phase II: Human Lag, Emotional Labor, and Frustration

I'm staring down a full glass of red wine at a dimly-lit cocktail bar in downtown Las Vegas. Carter and I are in town to honor AllDone's small phone support team and its extraordinary contribution toward helping the company transition its highest-value users to a new payment system. After doling out hugs and goodbyes to team members, only the two of us are left to finish off the last bottle. Carter grins and tells me he just sent a text message to a fellow co-founder back in San Francisco: 'When we started AllDone, did you ever think we'd spend so much time drinking with middle-aged women?' He raises his voice to cut through the din of club music, adding, 'Because that's what we do—here, and in the Philippines. Middle-aged women are what makes AllDone work.'

For investors, digital platforms hold the promise of "scale." Venture capitalists seek firms with the potential to quickly expand their operations, user base, and valuation. Platforms can scale profitably when a diverse array of users accept software systems that require minimal additional overhead per user, rather than demanding costly custom solutions. However, software developers often find it difficult to convince users to adapt their particular needs and expectations to a generic system (Pollock, Williams, and D'Adderio 2007). Forcing varied users into the same software system can lead to frictions, workarounds, and exit from the platform.

Social scientists have long investigated how humans interact with automated systems (Zuboff 1988; Muir 1994). Software often creates emotional and behavioral responses in end users that do not accord with designers' wishes (Lim et al. 2009; Yang and Newman 2013; Lee et al. 2015). Surprisingly, however, studies of algorithmically-operated digital platforms consistently overlook interpersonal interactions between agents of the software company and its users, focusing instead on technological modes of mediation such the algorithmic management of user activity (Lee et al. 2015) or the technological systems that help users navigate the risk and uncertainty posed by transaction partners (Kollock 1999; Resnick et al. 2000; Pavlou and Gefen 2004; Cook et al. 2009).

During the second period of my research at AllDone, executives shifted their focus toward generating a sustainable revenue stream that would ensure the company's longevity and attract a second round of funding. *Human lag* arose when users were reluctant to accept the performance of AllDone's software systems. Human lag posed a threat to AllDone's business: managers increasingly viewed registered sellers who rarely used AllDone, or who were at one time active but later became disenchanted with the company, as potential sources of revenue that were leaking out of the system. Human lag was addressed by the *emotional labor* of phone support workers distributed across the Las Vegas area who managed relationships with users and helped them adjust to software systems. ADLV worked to build users' trust in AllDone when they were confused, to repair their trust after it had been damaged, and to proactively preserve trust when the company chose to alter market rules. ADLV helped the company boost revenue by bolstering customers' trust in the firm and its dynamic software systems.

Among AllDone's three work teams, ADLV phone agents bore the burdens of organizational dynamism most directly. These employees were tasked with managing change on two fronts. Phone agents struggled to keep up with and understand the innovations originating in the San Francisco office. At the same time, they were tasked with supporting users who were angry or confused about the changing product.

Supporting ADSF's labor of innovation presented ADLV staffers with challenges not faced by members of ADP. ADLV employees struggled to keep up with shifting job tasks, and new managerial directives emphasizing adaptability bred stress and anxiety among workers. These conditions created special difficulties for ADLV's older and technologically challenged workers, who were already sensitive to the precarious nature of their positions, both within the firm and in the labor market more generally.

AllDone leaders attempted to import ADP's culture of familial love to ADLV, but team members did not consistently reproduce ADP's frontstage display of a happy, uncomplaining workforce. Facing low wages, difficult work, and uncertainty, ADLV employees at times failed to meet performance objectives, violated managerial directives, squabbled with each other, and openly expressed dissatisfaction with ADSF managers, reflecting a culture of frustration.

The Strategic Pivot: From Expansion to Revenue Generation

During the second phase of my research, AllDone's executive team redirected its focus from generating more user activity to generating more revenue. At ADSF's mid-summer quarterly review meeting, Peter and Carter lauded the recent growth that AllDone had achieved. However, Peter also cautioned that "we are not a sustainable enterprise." Adam presented graphs demonstrating that even as user growth had accelerated, revenue growth was slowing. Peter explained that AllDone was spending more money than it was taking in, thereby running the risk that eventually the company could once again end up desperate for an outside infusion of cash.

Peter emphasized the importance of generating a more sustainable revenue stream so that AllDone could survive in case the firm was unable to secure another round of funding. 'If we have to worry about raising another round, that's bad—Series B is hard to get to.' Carter echoed Peter, cautioning that startups that secure a second round of VC funding typically 'have to move beyond having a good idea and prove that you're making it work.'

At the same time that generating more revenue would help AllDone become a self-sustaining company, it would also have the salutary effect of making the firm more attractive to VCs. "With Series A" funding rounds, Peter elaborated, "you're selling a dream" to investors, whereas "[w]ith Series B, you're selling a spreadsheet. […] No one's gonna drop eight figures [on a company] with uncertain revenue." Peter announced an ambitious target for the team: to more than double monthly revenue within six months (the equivalent of week-over-week growth of 4.1%) so that AllDone would be taking in roughly as much money as it spent. After the company achieved this goal, he explained, it would finally have the "freedom" to make long-term investments in the product that had previously been forestalled in the name of achieving rapid growth, while simultaneously proving to VCs that the company was worthy of additional investment.

At the following all-office meeting, Carter explained that everything the company did would now be oriented toward its new revenue goal, which had become 'our motivation, our benchmark for all of our decisions.' Future meetings would begin with a review of AllDone's progress toward becoming revenue-neutral. The decisions that leaders would make about which new projects to pursue would "send signals to investors and the broader community," so it was important for employees to consider the question: "what will a Series B investor want to see, [and] what would they be scared to see?" The company's new orienting principle would generate new problems that would necessitate the reconfiguration of AllDone's product and workforce.

Consequences of the Pivot: The Salience of Human Lag

Prior to Phase II, the bulk of AllDone's customer support operations had been located in the Philippines.[39] ADP's e-mail support team was often ill equipped to educate those in need of more than minimal assistance. The e-mail team was designed to process a tremendous volume of incoming messages. Twenty team members would often handle well over 10,000 per week, and over 70% of user e-mail messages received a response in two hours or less. These speedy response times were enabled by the highly routinized nature of AllDone's e-mail support system. Because ADP agents' English skills could fall short of American customers' expectations, and because of the difficulty of disseminating the details of frequent, often complex product changes to remote team members, managers in San Francisco developed dozens of "macros," or pre-written e-mail responses, that members of the e-mail support team could select, edit as needed, and send based on the content of a user's inquiry. (Some recipients of these messages caught on to the semi-automated nature of the system and complained that a "robot" had replied to their inquiries.) The e-mail support team was thus designed not to engage users in detailed exchanges, but rather to provide them with prompt answers to basic queries. A handful of e-mail support agents also handled outbound voice calls to the small number of users who managed to locate AllDone's voicemail number or who demanded via e-mail to speak with a representative. These calls were often marred by poor connections, background noise (including the rumbling of motorcycles on city streets or the clucking of chickens in yards), and cultural barriers.

Before the company's strategic shift toward revenue generation, the customer support team's limitations had not overly concerned ADSF managers. Because the company had been more focused on growing its user base and increasing market activity than on generating revenue, the refund policy was incredibly lax: agents were instructed to grant a refund whenever a seller requested one. Thus, sellers rarely found it necessary to escalate their complaints from e-mail to telephone conversations. When ADP agents did place outbound calls, they were often related to user complaints about exchange partners. (Though support agents would try to mediate some disputes, they often made little headway given the "he-said, she-said" nature of these issues.)

During Phase II, ADSF's efforts to convert user growth into revenue growth drew executives' attention to—and at times exacerbated—instances of human lag, when users were reluctant to accept or resisted AllDone's software systems. Users who were confused by or dissatisfied with AllDone's service were less likely to become or remain paying customers; worse, some threatened to damage AllDone's reputation, which could endanger the company's future growth. ADLV team members were progressively reassigned to customer support functions through which they enhanced revenue generation by managing sellers' emotional responses to AllDone's high-tech market. When users were confused or upset by AllDone's systems, AllDone's phone support team in the Las Vegas area complemented technological systems by performing *emotional labor* to help users adapt to the company's software, helping to retain paying customers' business and to protect the company's future revenue stream by preventing damage to its reputation. These frontline workers regulated their emotional display in

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[39] There were two exceptions to this rule: ADP support agents had "escalated" the thorniest messages to Martin in the San Francisco office; and, during the waning months of Phase I, ADSF managers asked Carol, ADLV's team leader, to handle occasional support calls on an ad-hoc basis.

an effort to instill particular emotional states in the customers with whom they interacted (Hochschild 1983; Wharton 2009). ADLV supported revenue growth by managing relationships with sellers, helping to keep them engaged and satisfied with the product.

Like their counterparts in the Philippines, the 10 members of AllDone Las Vegas were work-from-home employees who were paid via oDesk, a digital labor platform. During the majority of my tenure at AllDone, the team consisted entirely of women ranging in age from their late 20s to 50s, with most on the older end of that spectrum. Few held post-secondary degrees. Team members were typically paid $10 an hour as independent contractors without access to employment benefits. Most averaged close to a 40-hour workweek; hours were assigned to meet business needs, with some flexibility to accommodate team members' personal needs. Contractors were responsible for providing their own computer equipment and internet connections.

ADLV's emotional labor was aimed at building, repairing, and preserving users' trust in AllDone's service. Trust is an essential element of market brokerage. For brokerage relationships to endure in competitive markets, buyers and sellers must believe that the broker is capable of meeting their needs, and that the broker will not exploit an advantageous position to unduly gain at their expense (Stovel and Shaw 2012). Emotion management is one tool used when a trust-taker "performs acts of self-presentation in order to win the trust-giver's trust" (Bandelj 2009:356). Trust-takers attempt to generate emotional responses in trust-givers by signaling their commitment, congruence of expectation, competence, and integrity (Beckert 2006). ADLV's emotional labor mobilized human intuition, creativity, problem solving skills, and powers of persuasion in interpersonal interactions to solve problems of trust—functions that were often impossible to automate, yet integral to the operation of AllDone's software and business.

Building Trust

ADSF's efforts to draw more users into the website left many sellers struggling to understand how to take advantage of AllDone's marketplace. Because AllDone had prioritized building a nationwide network of users as quickly as possible, its webpages were designed to funnel sellers directly into the signup process, minimizing the presentation of complex information about how the service worked. Once they had joined AllDone and begun to use the marketplace, some couldn't make sense of core features of the product, including the quoting system, payment structure, and user interface. "Half these [sellers] I think even know how to manage their dashboard," Carol advised me over online chat. "They seriously need a tutorial." Older sellers who had less experience with computers were most likely to exhibit confusion. As Tanya, an ADLV support agent explained during a meeting, these users "don't do e-mail." In Sharon's estimation, "anyone over 45 needs a live person."

Misunderstandings and mistrust could be exacerbated by ADSF's frequent experimentation with the user interface and market rules. Initial tests of new features might be underdeveloped, and engineers often chose not to provide affected users with explanations of experimental changes. Rather than investing limited engineering resources in perfecting experimental product features that might eventually be abandoned, it was far easier for AllDone to, as one manager put it, "throw bodies at the problem" of helping users learn about AllDone's rules and systems.

When users required extensive assistance, members of ADLV undertook interactive emotional labor to help confused buyers and sellers understand market rules and norms. In these cases, members of AllDone Las Vegas taught sellers about the AllDone process over the phone, as in a fifteen-minute exchange that I observed in team leader Carol's home office.

> As we're sipping tea at her desk, the phone rings. Carol puts on a smile as she answers on speakerphone. The man on the other end speaks haltingly, asking for Theresa. "We don't have a Theresa," Carol responds, "but can I help you with anything?" After a little back-and-forth, Carol deduces that this seller, Ted, received a request from a buyer named Theresa. Carol explains to Ted that he has received a new request. But Ted doesn't seem to understand what that means, or what he can do with the request. In fact, I'm beginning to get the sense that Ted doesn't even understand what AllDone is.
>
> After a few failed attempts at gathering Ted's account information, Carol is finally able to locate him in our system. Now that Ted has learned what a request is, Carol wants him to take a look at his queue. "Are you close to a computer?" she asks. "Uhhhhhh" is Ted's hesitant reply. "Or I could go over them [with you over the phone] if you'd like!" Carol offers without missing a beat.
>
> It turns out that Theresa's request won't work for Ted: he says he refinishes furniture, but doesn't upholster it. Carol launches into an explanation of how AllDone's system works. "AllDone, as you're unaware of what we do, we're a marketplace for local service providers." She outlines how requests are gathered from buyers and distributed to sellers, and informs him that it's "your responsibility to check your dashboard to see the leads you've been sent."
>
> "In other words, it costs me a dollar ninety-nine?"
>
> "Yes, if you'd chosen to accept Theresa's lead."
>
> Finally, Ted says that he wants to talk to his colleague Gary about how they'll use AllDone. Carol says that Ted can call her back after he's done so, when she can "walk you through the whole process and get you up and running and get you lots of business, I hope!"

Carol's conversation with Ted highlights the challenges inherent in AllDone's efforts to rapidly draw a large number of new users into the marketplace. Carol was available to patiently explain to Ted what AllDone was, how the system worked, and how he could use AllDone to meet potential buyers. ADLV team members were equipped to explain both formal rules of exchange (e.g. how to reach out to potential clients, fees) and informal norms (e.g. how to build a positive online reputation). Team members often went to great lengths to satisfy users—for example, they might offer to upload photos to a seller's profile if the seller was having trouble learning how to do so herself. ADLV thus endeavored to alleviate sellers' confusion and leave them confident that AllDone could support them in growing their businesses.[40]

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[40] Sharon recounted a similar episode during a team meeting: "A seller called in—one of those, 'I'm spending money and I don't know what to do, how to turn [using AllDone] into jobs.' He sounded elderly. 'I get annoyed really easily, so forgive me,' he said. I open up his bids to see what he's saying to people, and he's talking to them like he's talking to us! He'll write, 'I need the buyer to call me to give a price'—but he's talking to the buyer! I said, 'David, you're not [supposed to be] communicating with us at AllDone—you're communicating with the buyer!' He's like, 'Oh, I shouldn't do that anymore.'" Laughter fills the circle. "I say 'you wanna throw out warm fuzzies [in your messages].' We were on for

Repairing Trust

When sellers were dissatisfied with the results of the introductions AllDone provided, their trust in the company could be shaken. AllDone used ADLV to rebuild sellers' trust when market outcomes did not align with their expectations. Support agents strove to turn detractors into advocates by listening, counseling, reassuring, and caring for individual sellers.

Sellers who invested time in creating profiles and then paid to submit quotes to buyers tended to expect that their efforts would yield new clients. Some sellers' expectations were violated when they did not get hired for jobs, or did not even receive written replies from buyers. Some sellers accused AllDone of brokering in bad faith: of connecting them with people who were just "price shopping" and not serious about hiring someone, or even of fabricating fraudulent consumer requests to increase revenue. After receiving no contact from buyers on two quotes, one complained via email: "Like so many of these online systems yours is inherently corrupt. And I think you must know this. Neither of these folks are serious. I've wasted a bag of groceries for my kids on false leads." More than one seller would note that if five wedding photographers quoted on a bad request, AllDone would have made $75, with the sellers having no chance to realize any returns.

When users' experiences fell short of their expectations—when they complained of feeling dissatisfied, taken advantage of, misled, disappointed, or disillusioned—threats formed that could, on the aggregate, jeopardize AllDone's position as a broker. A recorded phone call from one seller began:

> Let me tell you: I canceled my subscription to AllDone. I hope you're recording this—you guys are the biggest piece of shit I have seen […]. It is absolutely, utterly useless. On the one hand, I feel you guys have stolen my money. On the other hand, I never got any responses. I make it a point to badmouth AllDone to other photographers.

The seller's anger is rooted in a betrayal of trust ("I feel like you guys have stolen my money"). These perceptions could be damaging to a broker whose revenue stream relies upon a reputation for making high-quality connections.

Members of ADLV endeavored to repair relationships with sellers who believed that the company was taking advantage of them. Phone support agents applied interactive emotional labor aimed at what team members called "turning them around," or reversing sellers' sense of betrayal and convincing them that it was in their interest to continue to use AllDone's services. I observed the following exchange between Carol, ADLV's team leader, and Nancy, the "account specialist" tasked with handling inquiries from AllDone's most valuable users.

> "I have a ticket I want to run past you," Nancy says, referring to a customer support request logged in our system, "from Phil, a troublemaker in Miami, shocker. He's having a hissy fit." Phil is upset that he has not been winning jobs and wants to have all of his past payments refunded.
>
> Carol asks for the ticket number, and takes a moment to pull up Phil's file on her computer. Nancy fills the silence, adding, "I know what I would do, but I want an opinion."

almost an hour. 'I promise more fuzzies—I'll be fuzzier, I promise. You are such a blessing to have the patience to stay with me.'"

"Let's look at his bids, the correspondence between them," Carol says, skimming the file. "Is he doing what he should do [personalizing his messages to consumers], or just sending a generic message?"

"Honestly, I think [his correspondence] was good," Nancy replies.

"Give him one month [of refunds]."

A pause.

"The screaming got real loud," adds Nancy.

"You can win him around, honey," Carol says cheerily. "You can Nancy him!"

As in other forms of service provision, AllDone users' consumption process was fragile. When consumers' enchantment turns to disenchantment, front-line workers often face the painful reality of absorbing consumers' anger (Korczynski 2003). Nancy's task was to convince Phil that the company had acted fairly as a broker, and that his experiences with AllDone could improve over time. Team members would patiently listen to a seller's concerns and offer reassurance and tips to help the seller succeed in the future ("You can Nancy him!"). In addition to offering material concessions such as refunds or credit, ADLV team members most frequently used a combination of three tactics to accomplish this: "tough love," education and counseling, and personalized attention.

Phone agents dispensed "tough love" to help sellers develop more realistic expectations about market outcomes. During a videoconference between Nancy, Carol, and I, Nancy recounted an exchange with a contractor who was upset that the in-home estimates he had given to AllDone clients had not resulted in jobs. "You have to give them a wake-up call," she said, summarizing the conversation. "'I understand [your frustration]—but how's your business outside of AllDone? Do you usually get every job you go on?' 'No, I don't.' 'Well, this is the same thing.' […] They need to hear this." In offering "tough love," team members attempted to persuade sellers to accept blame for their poor market outcomes.

In the process of adjusting sellers' expectations, team members would also try to teach sellers how they could improve their performance in the future by demonstrating both their competence and motivation to potential customers (Cook et al. 2009). When sellers called because they were upset that buyers were not responding to their quotes, Nancy would often investigate their files and see that the sellers had been "really sloppy" with their responses to buyers, sending quotes containing poor spelling or grammar that buyers might find unprofessional. Nancy reported frequently asking sellers to imagine that they were the buyer reading the seller's message. "'Would *you* respond if you received that quote? You have to work on this. The leads will not work themselves.' […] You have to show them how to stand out from the rest, how to answer in a nice way so people want to respond." Carol concurred: "Often they put a generic thing in there. Nancy and I tell them you've got to stand out." At an ADLV team party, Casey, another phone agent, remarked, "I need a button to press to be like, 'you need to work on your profile,'" because she frequently found herself repeating this instruction to sellers.

Sellers at risk of leaving AllDone were often simply reassured by the personalized attention that they received from support agents, sometimes within the context of ongoing relationships. As Carol explained to me during my first visit to her home office, "We have

special-needs [sellers]. You hear all about their personal life: 'my boyfriend,' etcetera. We do therapy, as well, at ADLV! But we give them love. We handle them all the same way, we give them love, and whatever they need." I later saw Carol lavish attention on an AllDone seller during a 45-minute call with a seller:

> The phone rings again. This woman is having trouble logging in to her AllDone account for her drapery business. Carol says she is happy to help, and adds some pleasant chit-chat as she looks up the account. "How's your day going so far, Sue? Looking forward to the holiday weekend?"
>
> Sue says that she hasn't been receiving requests. "Do you have time?" Carol asks. "We can go into your user page and take a look, see what's going on. Because we generally find the more information you give us, the better we can match you with the requests that come in."
>
> Carol's phone chirps to signal that calls are coming in on the other line and going straight to voicemail while she coaches Sue. "Yay!" she cries out at one point, clapping her hands three times. "Good job, honey, you're good at this!" Sue tells Carol about her new iPad and her issues with identity theft. "We'll have to see if we can get you some more business, Sue," Carol says, redirecting the conversation. She adjusts Sue's service categories, and her travel preferences, as Sue describes the parts of Wisconsin where she is most likely to find a market for her drapery business. "My God, can you imagine doing drapery for a mansion that size?" Carol marvels politely. "Goodness me. Well, drapery is a skill, not everybody can do it. What a great talent that is, Sue."
>
> Carol goes on to explain, "We're not like some companies where you can pay to get on top of the list" of buyer searches. Now Sue is having trouble logging into her account from her iPad. Carol finally wraps it up: "You can call this number any time and you can call us whenever you need us. We have a plan, Sue! We have a plan," she giggles. "Great chatting with you, Sue! I'll be talking to you later on or tomorrow."

Sue had called because she was having trouble logging in to her account, but she then revealed that the service was not working as she'd expected it to: she had not been not receiving requests from potential buyers. Carol patiently walked Sue through her account settings in order to improve the introductions she'd receive. In addition to providing the seller with accurate and useful information, Carol flattered her and engaged her in conversation unrelated to her drapery business. At the end of a long call, Carol promised to follow up with Sue to make sure that everything had worked out. Carol's interventions were aimed at making Sue feel like the company cared about her and wanted to help her business succeed.

When market outcomes violated sellers' expectations, AllDone deployed emotional labor to help users adjust to its software systems and to secure sellers' ongoing participation in the market. Each aspect of the task was sufficiently nuanced to require human intervention. Workers assessed market participants' emotional states, displayed empathy, understood and addressed their needs, and quickly developed relationships that in many cases restored users' confidence and trust in the company. Team members used their interpersonal skills to persuade many sellers to continue their relationship with AllDone by convincing them that, although the system hadn't met their expectations in particular instances, in general AllDone itself was trustworthy and fair.

AllDone's pursuit of revenue could also exacerbate human lag by leading to changes in the service that users perceived as unfair. A year earlier, in a bid to incentivize sellers to submit more quotes to buyers—and to convince potential investors that AllDone could connect a high volume of market participants—the company had created a "subscription" payment option that allowed sellers to send unlimited quotes to buyers for a flat monthly fee. Quote volume increased dramatically, helping AllDone secure its first major round of funding. By mid-2012, however, top managers worried that subscriptions were limiting AllDone's revenue potential: analyses showed that even as AllDone's investments in search engine optimization were bringing more and more buyers to the website to place requests, revenue growth was not keeping pace with user growth. In effect, sellers' responses to the avalanche of new requests had already been paid for. (For example, a seller paying a flat fee to respond to 10 requests per month in 2011 paid the same price to respond to 20 requests per month in 2012.)[41]

ADSF's product team attempted to address this issue by launching two experimental payment models. In one test, sellers did not pay for introductions, but instead paid a commission to AllDone only when they reported that they had been hired for a job. However, because AllDone did not wish to be responsible for processing consumer credit card payments, it was impossible for the company to know whether sellers were accurately reporting what they owed. In another test, AllDone allowed sellers to offer pre-defined "products" that buyers could compare and purchase instantly without waiting to receive and review quotes from sellers (for instance, a one-hour consultation with a resume writer, or four hours of service from a DJ). This model generated little interest from buyers.

Undeterred, executives continued to develop plans to terminate the popular subscription option and design a new payment model through which revenue would increase linearly with request volume. AllDone's top managers developed a new payment model through which revenue would increase linearly with request volume. Sellers would pay to purchase AllDone's internal currency of "coins," and would relinquish coins for each quote they wished to submit to buyers. The more quotes a seller submitted, the more she would have to pay AllDone. The stakes were high in the company's transition to the coin system. AllDone's most valuable relationships were generally with sellers who submitted a large volume of quotes in competitive service categories and locations. Some would see the price they paid to contact potential clients increase by as much as ten times. The transition would only succeed if AllDone could convince a substantial fraction of its high-value subscribers to remain active on the market while paying higher fees. If the change alienated too many existing sellers, revenue would plummet, leaving the company's future in doubt.

ADSF first experimented with explaining the change to a small group of sellers via automated e-mail messages and received overwhelmingly negative responses. Adam, the director of engineering, soon sent an e-mail to me and Josh, the product manager, with an idea for subsequent tests: "What if we did the coin transition for the high value subscribers via individual phone call?" Josh liked the idea—not only could this method help AllDone preserve relationships with its most important clients, but one-on-one phone calls would also allow the firm to better understand users' questions and concerns, as the phone team could record sellers'

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[41] As Greiner (1998 [1972]) notes, organizational practices developed to solve one problem may themselves generate new problems at a later time, in effect sowing the seeds of their own decay.

reactions and forward them to ADSF to help inform the company's messaging around the transition to the coin system.

The following week, I asked Carol, ADLV's team leader, to enlist another team member to help her place nearly 100 experimental transition calls. Carol's e-mailed report on the transition calls summarized sellers' responses:

> Most are very angry at the amount of money it will now cost them to purchase the coins for quotes, versus the cost of unlimited quotes under the subscription price. […] They think we are being greedy and/or trying to go public (on the stock exchange).

Many of the sellers with whom Carol had spoken felt that AllDone was attempting to take advantage of them, unduly profiting at their expense. When Carol and Nancy had finished the calls, Carol arranged a videoconference with she, Nancy, and I to discuss the results. While both Carol and Nancy remained professional, they were clearly exasperated: as expected, most of the affected sellers were livid. "We're beaten up this week," Carol told me. Nancy likened the calls to a "frontline battle"; Carol called it "guerilla warfare" conducted "in the trenches." "They're insane," Nancy said of the sellers she called. "People don't like change." Nancy recalled telling some sellers about the transition: "So many people were like, 'What are you talking about?'" Later, the sellers would read the e-mail AllDone's engineers had sent them detailing the termination of subscriptions "and call up screaming."

I was worried about the emotional toll that these calls would take on the team. It made me very uncomfortable to hear about the verbal thrashing that Carol and Nancy were absorbing, given that if their tests were successful, the entire team would be enlisted to complete this task with thousands of additional sellers. I sent an e-mail to Adam and Josh detailing the results of ADLV's initial tests, emphasizing how "brutal" the calls had been, and forwarding a message from Carol detailing their difficulties. What stood out to Adam, however, was not the abuse that sellers were heaping upon Carol and Nancy, but rather Carol's description of what the team had been able to accomplish under pressure: "We've managed to get most of them to come around and agree to try the coins, but some of these calls are taking a lot of time and a lot of tap dancing, *with jazz hands, of course!* 🙌" Carol and Nancy had patiently listened to sellers' concerns and worked to persuade angry sellers that AllDone would continue to provide a strong return on their investment. In most cases, a difficult fifteen- or twenty-minute conversation would help to assuage sellers' fears. Adam's reply underscored the critical function of ADLV's emotional labor:

> My first thought is this is a *really* good use of the phone team if they are able to consistently turn people's anger into trying the new program. At the end of the day we have to convert people to paying 5-10x as much as they were previously for the same thing, so there is no tap dancing around that issue or tricks we can pull (other than messaging it the best way we can).

The company's head software engineer was now convinced that there was no technological solution to the problem. AllDone's software systems alone could not manage sellers' feelings of betrayal amidst a radical change in the payment structure. It was precisely the fact that ADLV's one-on-one conversations with sellers were so difficult that revealed just how crucial they would be to a successful transition.

The tests continued. Every week or so over the subsequent three months, members of ADLV called dozens of sellers to inform them that their subscriptions were being terminated,

and introduced them to the coin system. ADLV callers refined their messaging to soften the blow, and reported user reactions to ADSF; the product team in turn continued to update the features included in the coin system, such as reducing the cost of each coin, implementing a new refund policy, and lowering the ceiling for competition among sellers on each request from ten quotes to five. One afternoon during this process, I noticed Adam meandering toward Peter, AllDone's CEO. Adam took a seat at an adjacent desk and struck up a conversation about the coin tests.

> "One thing I will say is that the calling team has been really useful," Adam remarks. In the first test, he explains, AllDone sent 11 e-mails to sellers letting them know about the change, and received five negative responses. "With the phone calls, every person is like, 'I'm upset, but I'm going to try it.' […] You have to figure out how to scale [transition every subscriber to coins] while being as high-touch as possible. To be honest, I don't think the coin rollout is possible over e-mail. [The conversations are] very long because it's complicated. [We first need to tell sellers] what's happening, [then] what [they] have to understand about what's happening." Peter adds, "The good thing about phone calls is that you can answer questions." Adam replies, "Exactly." He continues, "The fact that it's hard is good": if AllDone can institute a smart payment model before its competitors learn how to solve the same problem, the firm will be well positioned for success.

Adam believed that informing high-value sellers of the transition via an impersonal, automated mass e-mail would be disastrous for the company. His insistence that the rollout be "as high-touch as possible" speaks to his recognition of the vital importance of maintaining sellers' positive relationships with the firm through the provision of personalized attention from AllDone representatives. If AllDone wanted to introduce such a dramatic reworking of the market's rules of exchange, it needed to have staffers on hand skilled in preserving the valuable relationships that the change could jeopardize.

After four months of testing and refining the program, the product team was confident that the company could safely undertake a site-wide transition to the coin system because ADLV had demonstrated that they could convince many subscribers to pay more to continue to use AllDone. Carol and I began to train every member of ADLV to make transition calls, and coins were introduced site-wide over a period of five weeks. Every week, ADLV team members called hundreds of the most active subscribers in each affected region, announced the change, and tried to persuade sellers to try the new program. In total, they reached out to nearly 5,000 high-value subscribers and received calls from many more. Like customer support representatives in offline settings, ADLV's female, front-line workers paid an emotional toll to uphold exchange relationships and the accumulation of profit (Hochschild 1983; Brotheridge and Grandey 2002; Weeks 2007). Team members were battered with insults and verbal abuse for eight hours a day throughout the transition period, and none escaped without being brought to tears.[42] But the rollout proved successful: revenue climbed as a significant portion of former subscribers continued to use AllDone in spite of the higher fees. Years later, executives would continue to view the termination of subscriptions as the most pivotal moment in AllDone's history, unlocking the company's revenue growth for years to come. As Carter later reflected in an e-mail, "[w]e absolutely could not have made this critical transition without Vegas." Technology alone was incapable of solving the problems that arose when AllDone sought to profit from

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[42] Female call center workers may be more likely to suffer the abuse of male customers (Korczynski 2003).

using software to administer a nationwide marketplace. Instead, the company used emotional labor to help bring users' expectations in line with its software systems.

Bearing the Social Costs of the Permanently Beta Organization

Members of ADLV bore the social costs of organizational dynamism more acutely than did their colleagues in San Francisco and the Philippines. Employees in the San Francisco office experienced their role in orchestrating the firm's dynamism as thrilling and captivating. The frequent changes in technological systems implemented by employees in San Francisco were enabled by the efforts of complementary workers. Members of ADP were largely insulated from the effects of these changes, as they handled routine processes that supported the day-to-day functioning of the product. AllDone's phone support agents in the Las Vegas area, on the other hand, absorbed the brunt of the burdens generated by rapid change. The emotional labor performed by ADLV employees was intensified by organizational dynamism. The experiences of phone support agents were marked by instability as they struggled to keep up with a fast-changing product while simultaneously managing users' discomfort and displeasure with change.

ADLV's frontstage organizational culture was based on ADP's themes of familial love and gratitude. In contrast with their Fillipino colleagues, however, ADLV agents performed more taxing tasks, received relatively lower wages with respect to the local cost of living, had fewer opportunities for advancement, and felt less secure in their jobs. In light of these challenges, and given the comparatively shorter social distance between the teams, neither ADLV employees nor executives in San Francisco fully embraced the patron-client schemas that predominated in the Philippines. Instead, managers often viewed workers as undisciplined and ungrateful, while employees grew openly resentful of what they perceived as ADSF's neglect and unfair treatment.

Taking the Helm

Early in Phase II, my role within AllDone shifted to full-time employee. One of my primary duties was now to serve as director of customer support, overseeing ADLV's phone support operations and ADP's e-mail support division. My ascent to the top of ADLV's leadership structure aligned with—and in part signaled—the beginning of a period of dramatic change for the team.

Previously, ADSF leaders had paid relatively little attention to daily operations in Las Vegas, which largely consisted of routinized "request verification" calls placed to buyers. When I took the helm, my first major task was to more fully integrate ADLV into AllDone's customer support operations, shifting the team's focus toward interacting with the sellers who provided AllDone's revenue. Additionally, ADSF's product team was beginning to call upon ADLV as a flexible resource much like ADP's "special projects" division. Phone support agents were increasingly asked to take on a variety of one-off or short-term assignments to support ADSF managers' projects—the most significant of which would be facilitating sellers' transition to a new payment model (as described above).

Carter was eager for me to transplant the management philosophy that he and his deputies had pioneered in the Philippines to the smaller and more disorganized team in Las Vegas. I was

to establish new customer support "processes," gather and analyze data on team members' efficacy, and then use my analyses to refine those processes. At the same time, I would try to build managerial infrastructure such as standardized training materials that would enable and motivate new hires to improve their performance, while also helping Carol record and interpret important metrics so that she could track the team's progress toward its goals and make informed personnel decisions. Ultimately, Carter hoped that under my direction, ADLV team members could be transformed into flexible and efficient "phone ninjas" capable of taking on a variety of call projects to meet ADSF's shifting needs.

Locating Emotional Labor

Carter viewed the Las Vegas area as an ideal site for AllDone's cloud-based phone support team—in part because he perceived the region as analogous to the Philippines, the site of AllDone's capable team of computational workers. "Las Vegas is the Philippines of America: Hot, crowded, and affordable," he remarked to Carol, Veronica, and me as we sat down to dinner one night in downtown Vegas. Zappos—an online retailer famous for its customer-first philosophy—was headquartered in Henderson, a nearby suburb. Zappos had relocated from San Francisco to the Las Vegas area to take advantage of a labor market where prevailing wages were relatively low and many workers had prior experience in the hospitality industry. Creating a distributed workforce in Las Vegas granted AllDone access to the same desirable labor market without requiring the company to put down physical roots in the area.

Like AllDone's other teams, ADLV had expanded during the first half of 2012, when its first contractor and team leader, Carol, had hired nine additional team members. However, its activities had been peripheral to the day-to-day functioning of the company. Carter had hired Carol to start the team in November 2011 as an "experiment," but quickly handed off oversight of ADLV to Veronica, ADP's general manager. ADLV's phone agents had been tasked with calling buyers immediately after they placed a request, attempting to solicit further details about the job and to convince buyers to submit additional requests. ADLV would typically reach only one to five percent of buyers in any given month. Carter used the data generated from these calls to test three hypotheses: first, that sellers would be more likely to submit a quote if a request was "verified" by ADLV; second, that the calls could generate new buyer requests; and third, that consumers who spoke with phone agents would be more likely to return to AllDone in the future. As the months passed, only the second proposition seemed to be supported by the data, but if the team was in fact generating new requests via these "request verification" calls, it was also likely helping to pay for itself, as new requests would presumably yield quotes from paying sellers.

As noted above, in the early stages of AllDone's development, customer support was provided almost exclusively via e-mail. Four members of ADP's e-mail support team also replied to voicemails that AllDone users occasionally left in a company mailbox. When ADSF managers devised plans to expand AllDone's phone support operations and make the support phone number more widely available, they determined that they would phase out the Filipino workers and rely exclusively on ADLV for the job. After a meeting, Carter explained his thinking to me:

> Carter says that the problem with using ADP for phone support is that they're not as conversational as Carol's team in Las Vegas. Filipino workers are more likely to struggle to establish rapport with users—he assumes that most will not be comfortable starting a

conversation with a phrase like, "Hey, how's your day going?" Carter cites two reasons for this. First, his sense is that Filipino workers are often "culturally trained" to be "meek" and deferential to Americans. I note that just yesterday, Tony (who oversees ADP's small phone team) told me that he directs workers to "over-apologize" in conversations with users. Second, Carter points out the difficulties with accents and language—it's harder to build trusting relationships in a second language.

AllDone users could be angry and aggressive in conversations with phone support agents. Additionally, I had discovered in conversations with ADP phone leader that some callers objected to speaking with people with Filipino accents and would demand to speak with an American worker (Fabros 2009). Whether because of their on-the-job or "cultural" training, or issues with the language, Carter perceived Filipinos as more passive and deferential in conversations with Americans. He believed that it would be easier for American workers to form personal connections with AllDone users.

Digital Labor as Getting By

Members of AllDone Philippines were largely college-educated. To many, jobs with AllDone represented skill arbitrage: a path toward upward mobility as well as an inviting alternative to migrant labor or high-pressure BPO jobs with demanding hours and long commutes. By contrast, few members of AllDone Las Vegas were college-educated, and some were downwardly mobile, having previously held more stable or remunerative jobs. For example, Sharon had previously run her own payroll company, Emily had worked for the U.S. Department of Agriculture, and Tanya had held a position with the local Chamber of Commerce. Many had moved to Las Vegas seeking economic opportunity in a booming local economy with a low cost of living and then lost their jobs during the economic downturn of the late 2000s.

As I began to work closely with ADLV, I came to see how team members' precarious financial situations affected their everyday lives. It was not out of the ordinary for workers to ask for a loan or to be paid in advance to cover moving or automobile expenses. At least one team member was unable to afford a car, making life in sprawling and public transit-poor Las Vegas exceedingly difficult. Another was evicted from her apartment while working for AllDone. The company's bank frequently failed to disburse funds on time, which was a source of stress for workers living paycheck-to-paycheck. Carter told me that some agents received SNAP benefits. And over time I discovered that at least half of ADLV staffers maintained small side businesses to make extra money—for example, Cassie was repeatedly caught spending time on other jobs (usually Amway-type schemes into which she would try to recruit colleagues) while on the clock for AllDone.

Contractors' low income directly affected their working conditions and performance. Sharon told me that she worked in a "little closet" that she had converted into an office, and in which she would sweat so much that her glasses would continually slide off of her nose because she "can't afford" to leave the air conditioning on all day in the Las Vegas heat. Nancy told me that she worked scrunched in front of a laptop in her bedroom, where she was frequently distracted by her husband (who also worked from home) and her dog. When I visited Shirley's cramped apartment to help her troubleshoot a technological issue, I found that her computer equipment was so outdated that it was slowing her workflow and affecting her interactions with users (we subsequently bought her a new PC). And When I visited Nicole's apartment, I noticed

that a large television set was switched on in her bedroom, on the same table where she worked on a 15-inch laptop (and where we were interrupted by her five-year-old daughter). After sustained observation, it was plain to see how ADLV's working conditions could hamper team members' performance of jobs that were considerably more complex than those of their Filipino counterparts.

Difficult Conversations

In addition to the prevalence of and stress caused by financial strain among team members, the nature of the work that ADLV staffers performed was generally more challenging than the tasks executed in the Philippines. In the Philippines, most employees performed highly routinized back-office work. Only the small e-mail support team had direct (though asynchronous) contact with users. Real-time interactions with users—who could bring up myriad problems with AllDone's ever-changing systems that phone agents would have to diagnose and attempt to solve in real time, and who, as demonstrated above, could be aggressive and abusive—made ADLV's work both more challenging, complex, and stressful than ADP's. Some team members seemed to truly dread taking on customer support duties. When Emily was asked to answer inbound customer support calls, for example, she cited her diabetes and high blood pressure as reasons why she might not be suited to provide customers with good service. Other team members raised managers' suspicions when they repeatedly cited technical difficulties that kept them from answering live calls from their home computers.[43]

Low staffing levels placed additional strain on ADLV workers. The relatively low price of labor in the Philippines meant that ADSF managers were more willing to expand the team as user demand increased. Due to the higher cost of labor in Las Vegas and ADSF leadership's reluctance to commit to the Las Vegas team, staffing levels remained stable even as user demand and the difficulty of tasks persistently grew. Yet another difference was training: ADP had been established earlier and had developed an elaborate managerial structure. Over time, managers had acquired expertise in the processes they oversaw and created detailed instructions, training videos, and coaching and support systems for workers handling a variety of tasks, as well as technological systems that helped them monitor workers' output. Although ADSF leadership viewed Carol's people skills as unparalleled, her technical acumen and organization skills trailed behind those of ADP managers. As ADLV's sole team leader, Carol was often stretched thin, and her charismatic leadership was not easily translated into "scalable" processes that could be delegated to others. Carol's written guides could be difficult to follow, and she was often overwhelmed by the prospect of setting up new technological systems that might help her give feedback to team members or support them in helping themselves. Team members thus often lacked comprehensive routines or scripts that could help them manage difficult user interactions (Leidner 1993; Sallaz 2015).

Many members of Carol's staff shared her difficulties with technology. When recruiting phone agents, Carol was more interested in a candidate's demeanor than in her technological acumen. In particular, employees over 40 found it quite difficult to learn to use AllDone's arcane administrative systems and its new (and often faulty) customer support software. My visits to

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[43] Workers preferred replying to voicemails over accepting inbound calls, likely because this gave them time to assess a customer's issue and prepare their response before the conversation began, and because doing so gave them a chance to steel themselves for battle rather than feeling ambushed.

Las Vegas repeatedly revealed just how baffling and frustrating some team members found their day-to-day tasks—not only because of the nature of the work, but also because of their relatively rudimentary working knowledge of computer operating systems and applications. I witnessed Nancy and Sharon struggling to enter a web address into a browser, to understand the difference between their own user accounts, and to use keyboard shortcuts to navigate AllDone's sprawling administrative webpages. Nancy ruefully recounted that when she had purchased a new laptop and brought it to Carol's house for a training session, neither of them had been able to figure out how to open it. The embarrassing ordeal ended only when Nancy called her husband, "who's an IT guy," and who set them straight with no small amount of mockery (they had been trying to open the wrong end of the computer). Low staffing levels, inadequate training, and technical difficulties thus made ADLV's stressful work tasks even more challenging.

In spite of these challenges, however, employees sometimes described customer support work as a source of meaning, satisfaction, and self-actualization. I first spoke with Shirley during a lunch break at the first team meeting that I attended.

> After a brief hello, Shirley immediately tells me that what she really likes about her job is connecting with people. Sometimes, she says, you'll talk to someone who really needs help—just two days after the Aurora movie theater shootings, she had happened to speak with a woman whose son had survived Columbine. Shirley's eyes open wide and she looks at me earnestly, continuing: this woman just really needed someone to talk to, and I could be there for her. […] Shirley says she loves when, at the end of a call, she can tell that "they know they're taken care of."

Korczynski (2003) argues that scholars of emotional labor too frequently neglect the satisfactions and pleasures of providing emotional labor. Shirley's story exemplifies how ADLV agents often reveled in helping AllDone users pursue their dreams or in offering troubled people a patient ear. These statements were reflected in employees' actions. Some team members were so devoted to clients that they would transgress company directives. Employees frequently provided sellers with their personal phone extensions even though managers advised them not to, so that sellers with whom agents had previously established relationships could reach them directly the next time a problem arose. Some found that previously disgruntled AllDone users became "attached" and began to call them on a weekly basis . Employees often spoke of customers who fell under the sway of the same "AllDone Love" that helped to bind the team together.

AllDone Love in Las Vegas

As ADLV took shape, its organizational culture was modeled on ADP's. When Carol was hired as ADLV's first employee in late 2011, Carter put ADP managers in charge of training (and soon managing) her remotely. Carol was captivated by ADP's online work culture, which matched her own effervescent personality and spiritual outlook. If any single person was the embodiment of "AllDone, love and joy in motion"—a phrase found in her e-mail signature—it was Carol, a "true believer" who lived and breathed AllDone. Even as she frequently logged 12-hour days, often including weekends, her enthusiasm for the company long remained unflagging and contagious. She channeled her immeasurable charisma into making employees and users believe in AllDone.

ADLV's feeling rules echoed ADP's. As Carter told ADLV staffers, "We're proud of the culture Veronica built [in the Philippines], and that it's living on here in Vegas." Substantial portions of ADLV's onboarding documents were copied directly from ADP. As a distributed work team, most of ADLV team members' interactions with one another were conducted via e-mail, web chat, and telephone. E-mails frequently included exuberant professions of employees' love for their jobs and each other ("I LOVE ALL MY LADIES !!!!!!!!! UP IN HERE ESPECIALLY!!!! SUPER BIG HUG !!!!"); inspirational messages; personal news about family and pets, and requests for prayers; and customers' praise of employees or the company. To this they added a fair dose of joking about husbands, boyfriends, and celebrity crushes. As when Filipino team members met in person, the primary aim of ADLV's monthly meetings was to make employees feel that they were valued members of a work community rather than the discussions of work or matters pertaining to AllDone's business as in the San Francisco office. Gatherings were instead typically dominated by conversations about employees' personal lives and stories about interactions with AllDone customers.

Like their Filipino counterparts, when Carter flew to Las Vegas to visit the team, employees offered testimonials that highlighted the positive effect AllDone had had on their lives. (This, too, stood in contrast to the San Francisco office, where I never saw managers prompt employees to publicly reflect on their life trajectories and share what working for AllDone meant to them.) During one visit to Las Vegas, Carter asked employees to introduce themselves and what they had done before they joined AllDone. Many team members shared stories about how AllDone had helped them overcome adversity:

> Eileen says that she had been laid off from her previous job, where she had managed accounts for five years. She was almost out of money when AllDone came along, and it was a blessing. She says she still can't believe that AllDone is for real—that a company that cares about its people so much exists. […]

> Shirley explains that she used to work as a leasing agent, where her boss would yell at her for being patient with people. Now, she continues, it's her job to be patient, to help people work through things. "I can honestly say, I say it every day to myself. I get up and I love what I do, I love my job, I love AllDone. I've had 11 jobs [in Las Vegas] in seven years; I hadn't had 11 in my entire *lifetime* before I got to Vegas. I've been laid off more than…I go, it's like, 'Oh my God, it took 11 tries to get it right.'" […]

> Sharon shares that she "was self-employed before AllDone. My business got killed when the economy fell [during the recession]. AllDone was a saving grace because when it's your own business and everything is great, you don't take other things into consideration, like having a 401k and savings. All of a sudden it's gone, so AllDone was a lifesaver. Everybody is amazing. It really was like joining a family, and it still is. I appreciate that every day."

As in the Philippines, employees recounted emotional stories of personal transformation enabled by the generosity of a benefactor—the job creator in their midst. The following morning, Carter received an appreciative e-mail from Wendy:

> Thanks for the Surprise in being able to see you yesterday! […] It means so much that you come out to see us […]. You are so Special and Thank You for showing us your gratitude. The feeling is beyond mutual with all of us. We know why we were given the gift of this job. Thanks So much Again and Always, You forever have a place in my heart! Glad to be part of your family!

Wendy's message was reminiscent of those Carter received from employees following visits to the Philippines. Wendy told Carter that his expressions of gratitude—indeed, his mere presence in Las Vegas—was meaningful to employees for whom jobs with AllDone represented a "gift" and provided a "family." As in the case of AllDone's Filipino workforce, of interest here is not the extent to which Wendy's expressions of gratitude were "genuine," but instead how employees attempted to curry favor with management by echoing what they believed leaders wished to hear (Swidler and Watkins 2017).

Managers in San Francisco were indeed eager to promulgate the notion that, as in the Philippines, Las Vegas-based employees believed that AllDone represented a source of opportunity and fulfillment that transcended what typical jobs had to offer. Carter summarized the testimonials he heard during a trip to Las Vegas in a message to staffers in San Francisco:

> [I]t was really encouraging to see how many people talked about how fortunate they feel to work at AllDone. In San Francisco, we are all very spoiled by incredible opportunities—everyone on our team could get countless offers somewhere in the Silicon Valley bubble. But, like in the Philippines, opportunity doesn't come so easily in Vegas. AllDone was "an answer to prayers" for a couple [of employees] who had lost their jobs before finding AllDone and were in a pretty tough spot. Shirley, a ~50 year old former jazz singer, said she has had 11 jobs in her life (the last one treated her very poorly) and AllDone is a league above the rest—for the first time she wakes up excited every day to talk to our customers. Wendy, who is a replica of Carol (=insanely loving and empathetic), loves connecting with sellers and buyers on the phone and said this is her dream job. […] Everyone raves about Carol and cites her as a role model and source of endless, positive energy. The team is also really excited about our growth and was happy to hear we have many more projects coming their way (Josh and Allen have both said recently they will need more Team Vegas resources for a number of projects).

Here Carter imports the "rescue narrative" (Constable 2003) that he had previously applied to Filipino workers. He acknowledges ADSF staffers' privilege as "spoiled" denizens of "the Silicon Valley bubble," and frames the jobs AllDone provides to team members in Las Vegas as a way of giving back to those who are less fortunate. At the same time that ADSF employees were pursuing their dreams of striking it rich, AllDone was making dreams come true for its phone support agents, who were grateful and "excited" to serve in whatever capacities ADSF managers required.[44]

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[44] As in the Philippines, leaders in San Francisco bridged two codes of speech when interacting with members of AllDone Las Vegas:

> I see Carter mosey toward the kitchen and I get up to ask him if he's spoken with Carol today. Yeah, he says, then smiles and chuckles, continuing that "I feel funny saying 'love you lots, too!'" in response to Carol's typical telephone sign-off, and blushes a little. "Because I do love her. But it's not something that I say a lot around here."

Carter was sheepish about being heard expressing "love" for an AllDone employee by his colleagues in the San Francisco office, where such language was out of place, but he did not deny the authenticity of these feelings.

Carol's first visit to the ADSF office also highlighted the incompatibility of ADLV's and ADSF's cultural practices, as well as ADLV's concordance with ADP's. When Carol arrived, she walked around the office hugging each and every team member. For most if not all ADSF staffers, this was the first time

Relational Breakdowns: Disrupting the Rescue Narrative

In the Philippines, where employment relations were inflected with neo-colonial schemas of debt and reciprocity, managers in San Francisco consistently viewed employees as diligent, grateful, and deserving of care. Providing middle-class jobs to Filipino workers fit a "rescue narrative" in which American managers came to the aid of people in need in a "developing" nation (Constable 2003). Managers appreciated and empathized with Filipino workers who they perceived as working hard to provide for their families under difficult economic circumstances.

As demonstrated in the previous sections, members of ADLV, too, labored under difficult circumstances, and frequently drew on these same tropes in their communication with each other and with ADSF leadership. However, unlike in the Philippines, the relational work (Mears 2015) associated with AllDone Love frequently broke down in Las Vegas, where workers did not consistently assume the role of gracious client, nor did management always behave as would befit a benevolent benefactor. Instead, managers often saw workers as incompetent or unworthy, whereas workers often viewed management as neglectful and unappreciative of their contributions. The cultural logic of supplication and gratitude that prevailed in ADP often clashed with the realities of ADLV's difficult work, team members' personal struggles, and the shorter social distance between ADLV workers and ADSF leaders.

Unlike ADP, which at times functioned so smoothly that managers in San Francisco referred to it as a "human machine," ADLV was known both internally and to leaders in San Francisco as a site of recurrent "drama" marked by performance issues and conflict between team members. Upon learning that I had been selected to direct the team, two members of ADSF advised me that they had been unimpressed by the performance of phone agents who had called them after they placed requests on AllDone. 'I wonder why they're so bad at selling AllDone' to buyers, Karina mused. 'Even if they can't fulfill a [buyer's] request, they should be selling the brand—they should be able to talk about the other stuff AllDone can do for [buyers].' Unlike ADP, which operated largely behind the scenes, ADLV employees' work product was subject to the direct scrutiny of ADSF employees who had themselves used AllDone to find sellers of local services, but who had little knowledge of the challenging conditions under which ADLV labored

Carter warned me to expect frequent personnel issues among ADLV team members. Some, he said, had been "gossiping unproductively," spying on one another, and failing to provide advance notice of when they would be unable to work. When I took the helm, four had just been fired for gaming the system to enhance their performance metrics. According to Carter, discrepancies in relative compensation would make my colleagues in Las Vegas qualitatively different from those in the Philippines. In an e-mail, he explained that AllDone was "very aggressive with our compensation" in Las Vegas—by which he meant that AllDone's phone team was aggressively undercompensated, making $10 per hour with no benefits. He explained that our personnel costs were two to three times lower per worker than was typical of other call centers for two reasons: first, because "we're exploring opportunities (not committing forever)"

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that they had been hugged by a colleague in the office. That set the tone for Carol's visit—she did not fit in. She was twice the age of many ADSF team members, and most in male-dominated ADSF spoke a different "language": more business-oriented, less touchy-feely. ADSF staffers were nice to Carol, but she spent much of our party that evening alone, as few bothered to seek her out and talk to her. Carol's "love and hugs" style of projecting effusive sentiment was embraced during her visit to the Philippines, however, and she seemed far more comfortable around her ADP colleagues (who were similarly in the dark about the intricacies of AllDone's business).

to maintaining the team, and second, because "we're cash constrained." Carter went on to say that ADLV's compensation scheme would make my job harder: "this low rate does increase management overhead because we're not dealing with top talent like we do in the Philippines," where, in his view, high-quality workers were available for around $2 per hour. Here, Carter interprets ADLV's performance issues not as *consequences* of low pay, but rather as implicit *justifications* for low pay. Rather than assuming that higher wages could motivate ADLV employees to perform better, he hypothesizes that the best workers would be able to find more remunerative jobs elsewhere.

Carter's perceptions of team members' biographies also informed his justification of what constituted a fair wage. When Carter and I met to discuss my first visit to Las Vegas, he asked me what I thought about the demographic composition of the female and largely middle-aged team.

> I say I think it works—team members seemed to enjoy getting together and joking around with each other. In that sense, demographic homogeneity could be good for camaraderie. Carter agrees, adding, 'I think it's good to get people in "semi-retirement,"' because they're "not as ambitious," which is good because "there really isn't any possibility of advancement right now."

After meeting the team, however, it seemed to me that the designation of "semi-retired" applied to perhaps one ADLV team member who was collecting a pension from a prior government job. For most others, working for AllDone was their primary source of income. (As Tanya wrote to Carol when it appeared that her termination was imminent, "I can't afford to lose my job, I can't emphasize that enough.") In fact, I soon discovered that members of ADLV were eager to advance within the company, and were frustrated that there were no clear paths toward receiving more pay and new responsibilities.

When Carol confronted personnel issues, she was quick to draw comparisons to ADP. During my first visit to Las Vegas, Carol told me about her efforts to mediate a conflict between team members, and about catching one employee working on her own candle-selling business on company time. 'Look at Team Philippines,' she remarked. 'They have so much "gratitude" just to have a job. We all should feel that way, especially to have a job we love and a company we love. They have so little [in the Philippines].' After Carol fired a team member who she viewed as a troublemaker, she returned again in a phone conversation to the question of "Why can't everybody be like Team Philippines?"

> It's just being humble and grateful. From day one, I loved 'em. They're so warm and loving. […] My first day on the job, it was all I could do to keep up with the [welcome] emails I got all day long [from Team Philippines]. I was overwhelmed! 'Who are these people? They're just the most beautiful people!' It was just wonderful! I was really in tears my first day on the job, like, "Oh. My. God. They're so wonderful!" […] From day one I looked up to Team Philippines—they're *happy*, they're excited about doing the job. I never thought I'd find other people who are like me! (The pitch of her voice is rising, rising.) I'm not the only one!

Carol believed that ADLV staffers lacked the "gratitude" that members of ADP evinced as they seemed to cheerily go about their workdays. Members of ADLV were not as "excited about doing the job." Why, then, did ADLV fall short? Why was there so much "drama" in Las Vegas? Why the sense of entitlement in comparison to workers in the Philippines, who were "happy" even though they "have so little?" Viewed through the lens of absolute economic difference, workers in Las Vegas did indeed enjoy a higher standard of living than their Filipino

counterparts. At times, managers blamed employees themselves for team's shortcomings, rather than the conditions they labored under as workers experiencing downward mobility and relative deprivation toward the bottom of the socioeconomic spectrum in the U.S.

Both Carol and Carter attributed differences in the performance of ADLV and ADP team members to differences in the characteristics of employees. Both believed that intra-team squabbles were more frequent among workers in Las Vegas than in the Philippines. Carol and Carter (as well as ADLV employees) often attributed such frictions to the fact that at this time, ADLV consisted exclusively of women. During a series of conversations pertaining to Tanya's conflicts with team members, Carol exclaimed to me:

> All girls on a team—bloody hell! […] It's so *high school*. […] [Tanya] doesn't like me because I wouldn't fire Cassie; she hates Cassie because she's friends with Tori. […] It just surprises me that women cannot get along. […] I don't understand in this day and age why women feel threatened by each other.

According to this interpretation, "drama" among team members is a natural byproduct of gender relations. I heard other members of ADLV echo these sentiments on occasion. Gender alone, however, cannot account for differences between the two teams—most members of ADP were also women, and ADP did not share a reputation for "drama," nor did ADP staffers seem to identify with such a description as employees did in Las Vegas.

Carter often interpreted differences between the two teams as manifestations of divergent national cultures. In an e-mail, he explained to me "the advantages of Filipino culture (trustworthy, deferential, team players) over American culture (dismissive of rules, individualistic)." After his first visit to the team in Las Vegas, he acknowledged in an e-mail to ADSF staffers the mismatch between ADLV's culture of familial love and ADLV team members' expectations for their jobs:

> Compared to [T]eam [P]hilippines, they are more motivated by "team" than by "family." They are more competitive. They want jobs that have mobility / [are] going somewhere. (Who doesn't?) At least two discussed leaving other jobs that were dead ends. I emphasized that if we are successful Team Vegas is where Team Philippines was 2 years ago and they get to help the team grow. They really liked this.

Yet Carter's recourse to national culture is also suspect in light of the different opportunities available to each workforce. ADP staffers *did* enjoy "jobs that have mobility" within a growing team, including opportunities for promotions, raises, and bonuses, and it is implausible to suggest that they did not "want" these opportunities.

If managers in San Francisco often perceived the workforce in Las Vegas as insufficiently grateful and incompetent, the workers themselves often viewed managers in San Francisco as out of touch and unappreciative of their efforts. Although ADLV employees could become exasperated by conversations with abusive customers, perhaps the most frustrating aspect of their jobs arose when systems created by ADSF software engineers placed them in situations that made them feel interactionally incompetent (Sallaz 2015). Minutes into my first meeting with the team, I was bombarded with questions and requests. I was told that many aspects of the administrative portals that the team used to do their work did not function properly.

> Sharon says that what really makes her feel bad is when the system has her call the wrong person or ask them about the wrong thing. For example, there is a bug in the review portal, so sometimes it prompts her to call a buyer who has already submitted a review online. In these cases, either the buyer will be upset that she's being asked for a review when she's already submitted one, or Sharon will write up a review for the buyer, click to submit it, and find that she can't because a review of that job is already in the system. […]

> Sharon also says that sometimes she gets request verification calls in the portal for a job that already has quotes. Emily then turns to me and says she wants to get the ability to put a call on hold, or to throw it back into the queue to be called again in a designated number of minutes. Nancy agrees: "I hate to say no" when a consumer asks if she can call back, "and I'm like, 'Not really.'" Emily agrees: we should be able to "park it" (put a call on hold).

> At another point, Nancy complains that sometimes she'll be forced to call someone to verify one request, when the buyer has actually submitted five. That means the buyer is getting five different calls in succession, often from different phone agents! Sharon says that when this happens, she always says she's sorry, and explains that 'I'll try to make it so you don't get another call.' But the way our system works, she knows that different callers will just continue to be fed different requests submitted by the same buyer. It would be great, she adds, if we could get a note for peoples' profiles who say, "Don't call me again." Emily adds, 'What would be cool is an admin button for "rush" so it [a buyer request] goes to the front of the queue' when a buyer tells them that they need quotes as soon as possible.

Members of ADLV were engaged with their work and wanted to provide customers with good service, whether that meant not bothering customers with superfluous phone calls or providing additional help to those who needed special assistance. However, they often felt that AllDone's systems made it difficult for them to do so. When AllDone's technology forced them to disappoint a customer, they felt embarrassed and frustrated.

Team members' frustration was amplified by the fact that they were typically unable to persuade anyone from the San Francisco office to make the fixes or changes that they desired. I soon found that ADSF's product team rarely addressed issues presented to them by ADLV because they had little immediate bearing on the company's bottom line. However, these bugs mattered a great deal to ADLV employees because they often exposed workers to emotional strain. Sharon came to one training meeting ready to unload, setting down a pile of printed instructions that I had written and e-mailed to the team, as well as her own handwritten notes. She had apparently been recording technological issues as they came up throughout her workdays and retained these records in case an opportunity arose when she would have access to someone from ADSF—even if that someone had little power to get bugs fixed himself. Throughout the meeting, she peppered me with questions and suggestions.

> Sharon brings up another bug in how requests are displaying for attorneys and auto repair, noting that "this has been going on for months." She then turns to Carol and adds, with some bitterness, "I'm sure you forwarded it [to San Francisco] and it got lost […]."

Resentment among ADLV staffers continued to mount as issues that they had identified repeatedly went unaddressed. (After one such bug request, Carol said to me, with apparent frustration, "We asked for this last time.") Whereas ADP workers rarely voiced complaints about using faulty software, members of ADLV were frequently forthcoming with their feelings of neglect and their vision of how things should work. Phone support agents felt that they had

important knowledge that ADSF leaders were missing because they were removed from the immediacy of user interaction and were thus clueless about what users actually needed and wanted.[45] These staffers felt that their input was not sufficiently valued by managers in San Francisco.

Team members also felt besieged by ADSF's experiments and product changes. When ADSF's product team tested displaying the customer support phone number more prominently on the website, ADLV found itself on the receiving end of a "call flood" that overwhelmed the team. When Josh, ADSF's product manager, assigned a special project to ADLV that required them to survey more than 2,000 buyers by phone, ADLV staffers collectively dubbed the spreadsheet that he had created for them to document survey responses a "clusterfuck," as I learned during a meeting when the team was seated in a circle in Carol's living room:

> Carol says two words—"Josh's survey"—and the room bursts out with groans and laughter. Someone says, "you can't work with that thing." When the hubbub dies down, Sharon addresses me: "Obviously, Josh has a brilliant mind. But if you would just do *one* of them yourself—" someone else cuts in, saying the type is so small, and you can't really go through a call like that (asking question after question, presumably about something the buyer doesn't care about). Shirley then addresses the group, saying that you have to do it your way. People are nodding in agreement. You have to go through it and understand what [Josh is] looking for, the information he's looking for, Shirley continues. You can't say it exactly like Josh's script in the spreadsheet. You have to catch people's attention, keep it moving fast, or they'll take the first pause and, goodbye, click. (I will later discover that the word "spreadsheet" has become a running gag for the group—they will typically start laughing and rolling their eyes at the mention of the word.)

Not wanting to insult Josh in my presence, Sharon remarked that Josh had a "brilliant mind"—code for an intelligence that is more theoretically than practically oriented. In this instance, working on a special project required ADLV employees to figure out for themselves how to get the results that ADSF managers were seeking. Even Carol couldn't always hide her exhaustion with ADSF's experiments. ("Oh bloody hell, another test," she muttered at a training meeting after I acknowledged that AllDone's refund policy might be subject to further revisions.)

Additionally, team members were expected to keep up with frequent product updates that I would detail in lengthy, weekly e-mails. "My biggest thing," Sharon told me as she asked for clarification on a litany features that were being tested on users, "is to tell [callers] the right thing." But support agents found that ADSF's experimentation with the product made it difficult for them to provide accurate information to customers. Changes in the administrative software that team members used to manage their contacts represented another source of confusion. During a training session in which I tried to demonstrate AllDone's new customer support software, Nancy was clearly becoming exasperated. As she slumped deeper and deeper into her

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[45] Merton (1968) argues that in bureaucracies, subordinates are often ignored in part because they are (at least perceived as being) unaware of what really matters to those on top. As Josh, ADSF's product manager, once said of a report delivered by a deputy manager in ADP, "There's a lot of data, but not a lot of information." Keeping subordinates better informed could lead to better information flow up the chain of command. But because this would defeat the purpose of delegation, subordinates are often intentionally deprived of organizational knowledge. ADLV employees' structural position allowed workers to understand potential new sources of value, but not to communicate process improvements to ADSF engineers and convince them to follow through on making desired changes (cf. Leonardi and Bailey 2017).

chair, she asked me to simply tell her, as clearly as possible: "Do this; don't do this." The requirement that phone agents be functionally flexible was more likely to be experienced as exhausting than as exciting.[46]

Carol tried to shield her team from the doubts and anxieties that came with interacting with unpredictable users, rapid changes in the product, and the team's shifting array of projects. I came to see Carol not only as a supervisor, but also as a counselor for those suffering from the ills of low-wage contract work—both AllDone sellers and her own employees. Carol's work team doubled as a virtual support group for women who felt left out and devalued in a changing economy. Carol would often tell me "I'm putting on my therapist hat" when she was about to speak with an employee to offer counsel on work or personal issues. Carol was a devoted fan of Oprah Winfrey—and like Oprah, Carol was adept at listening to people's problems and cheering them on, encouraging them to view their challenges through the individualizing glow of therapeutic selfhood rather than to question relations of production (Rose 1999; Illouz 2008; Ahmed 2010; Silva 2012).

Carol endeavored to reframe employees' negative experiences with organizational dynamism as opportunities for personal growth. She wrote to the team in a weekly e-mail update:

> There are a lot of very exciting things going on at AllDone, and again with that comes change. Which has encouraged me to take a well needed inventory of some of the changes I need to make in my life. So on a more personal note, I hope you will join me in taking a look at the positive aspects of change, so we as a team can be ready to embrace all the wonderful things to come.

Beneath this message was a short article that Carol had adapted from an online source about how "change, discovering new things, doing things differently is one of the keys to a health [sic] brain and also helps fight Dementia and even Alzheimer's."

> [I]f you exercise a muscle it will get stronger. Our brain works the same way—it must be kept active, or it too will atrophy and wither away, just like a muscle that is seldom used. And there is no better way to keep your mind active and your brain healthy, that [sic] with change.

Carol presented challenges on the job as opportunities for self-work and self-improvement, mobilizing discourses of therapeutic selfhood through which employees could gain "a sense of control over the disruptions and uncertainties inherent in modern day life" (Silva 2012:507). In this case, employees' ability to embrace change, rather than fearing it, would supposedly contribute to the company's success while also sharpening workers' minds and improving their health.

In addition to encouraging employees to view organizational change through a therapeutic framework, Carol also mitigated the effects of organizational dynamism on ADLV employees by taking on experiments or difficult projects herself rather than delegating them to team members. This strategy was distilled in one of Carol's managerial mantras (which she may have picked up from Carter): Keep the team "clueless and happy." Carol felt that she could

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[46] Other experiments and "special projects" executed by ADLV included: calling sellers to survey their responses to new features; calling sellers to solicit quotes for high-priority requests; placing welcome calls to new sellers; calling buyers to solicit reviews of sellers; calling sellers to deter them from canceling subscriptions (before the transition to coins); soliciting sellers to be quoted in press pieces about AllDone; and inviting sellers to attend gatherings at the ADSF office.

stabilize the team's morale by minimizing team members' exposure to organizational dynamism. During a phone meeting, Carol told me that "I share only what's pertinent to their job[s] right now. If I share too much they can get nervous, like, 'Ooh, what's going on?' It can be upsetting because it's change, and some people don't do well with change." For example, when Carol asked Tanya to stop working on an experimental task, Tanya told Carol she was afraid that this was a signal that she would soon lose her job. Protecting her charges from discomfort, however, left Carol with less time for her duties as a manager, perpetuating the team's habitual disorganization.

Another consequence of this strategy was that being protected from information outside of their immediate purview could hamper team members' job performance. During visits to Las Vegas I found that some employees were unable to answer many user questions because they lacked information about AllDone's operations. Support agents couldn't tell sellers about AllDone's SEO pages because they didn't know what they were, couldn't tell buyers how long the matching process would take AllDone to complete, and didn't know what Team Philippines did. The fact that ADLV was distributed rather than collocated contributed to the confusion. "When we work remotely," Nancy told me, "we can't walk over to a [colleague's] desk and say, 'this is funny'" when they discover something that seems amiss. "We don't know what's going on." Because their distributed team was relatively cut off from organizational knowledge, it could be difficult for ADLV employees to get feedback on whether the issues they experienced with technology were caused by bugs in the software or their own confusion about the workings of AllDone's systems. Because Carol, too, lacked computer savvy, flawed work processes could long remain uncorrected, or workers might remain uneducated about how to efficiently complete key processes.

In contrast with ADP, the "underside" or "backstage" of ADLV's organizational culture was more visible to managers in San Francisco.[47] Two months into my work with ADLV, a disgruntled team member openly voiced her dissatisfaction with relations between ADSF and ADLV. Tanya sent Carol an e-mail that read, in part:

> I'm a bit annoyed also when I saw on AllDone website under jobs, yeah, they in SF get benefits, they get paid vacation, 401k, and it's insulting at the bottom where it says perks, "Love, inspiration and emoticons from our remote teams in the Philippines and Las Vegas."
> What does Las Vegas get?

The contrast in how the two teams' labor was valued by the firm bothered Tayna. Tanya also found it insulting that ADSF employees, who already enjoyed so many material perks, were also told to expect emotional support from adoring members of the remote teams who received no such benefits. Tanya's contract was soon terminated, at which point she sent me and Carter an e-mail that ended, "So much for love," referring to what she saw as our betrayal of ADLV's "family" values.[48] Carol assured me that I should write Tanya off as a mentally ill deviant whose

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[47] Carter told me that it seemed to him as if ADLV's small 10-person team had more personnel problems than ADP's team of 200, though he also acknowledged that ADP team leaders did a better job than Carol of preventing him from learning about such issues. When I first met Veronica, she told me that she tried to shield Carter and Martin from most of the personnel issues that arose in ADP. Carol was more forthcoming with the issues that she faced as ADLV's manager.

[48] This is similar to Turco's (2012) observation that employees may use symbolic resources propagated by management against managerial interests. See also Scott (1985) on conflict within hegemony.

sentiments were not shared by others on the team. In spite of Carol's efforts to project an image of ADLV as a happy and grateful team to leaders in San Francisco, however, ADSF managers were far more cognizant of grievances emerging from Las Vegas than from workers in the Philippines, who did not publicly make claims on ADSF's managers' time, challenge their expertise, or express disappointment with management's failure to meet their needs and expectations. From their position in the national periphery, ADLV workers were closer to core workers in San Francisco, both in terms of geographic and social distance, rendering the structural inequalities between each team more salient.

Conclusion

The rise of "agile development" in software engineering (Ries 2011) has compressed and intensified cycles of software development. Whereas in the past, users were explicitly enrolled as beta testers who volunteered to participate in experimental processes (Neff and Stark 2004), today developers often test new systems on users without their knowledge or explicit consent, tracking user behaviors rather than soliciting feedback. Under these conditions, a human touch may be more important than ever in ensuring that technological systems have the effects envisioned by designers.

As AllDone embarked upon a strategic pivot toward revenue generation, sellers became increasingly suspicious of or hostile to the company's policies and motives. AllDone's low-cost approach to user acquisition, low-maintenance revenue model, and eventual "pivot" to a new payment model left some users bewildered, distrustful, or angry. AllDone executives confronted this human lag by revamping the Las Vegas-based phone team's labor processes. Phone support agents increasingly provided emotional labor designed to build sellers' trust in AllDone's systems, to reactively repair their trust when AllDone failed to meet their expectations, and to proactively preserve user trust in the face of changes to market rules.

AllDone's innovations did not emerge as finished products. "[T]he *efficacy* of innovation in the world is limited—until extended, sustained, and completed in repair" (Jackson 2014:227). As Carter put it in this chapter's epigraph, "middle-aged women are what makes AllDone work." Innovation in the organizational core necessitated peripheral workers who provided operational stability (ADP) and insulated core workers from customer interactions (ADLV). If for ADSF and ADP AllDone's users generally appeared as abstract representations on computer screens, ADLV's front-line workers confronted concrete people with tangible emotions and immediate problems to solve. ADLV's emotional labor was aimed at calibrating AllDone's technological systems to the needs of individual users and at rendering those systems legible and useable for clients (Ekbia and Nardi 2017).

In the Philippines, team members appeared to managers in San Francisco as happy to take on disparate tasks at a moment's notice. In Las Vegas, on the other hand, functional flexibility could be a source of anxiety for older workers who had trouble learning new technologies and processes on the fly—operating at the speed of a startup—and onto whom the most emotionally taxing tasks were displaced. In contrast with ADP, ADSF leadership often perceived ADLV as being beset by "drama." A frontstage culture of familial love at times rang hollow to workers struggling to make ends meet while ADSF pushed them to take on increasingly difficult conversations with users. Confusion about how to execute their tasks and

use AllDone's technological systems was paired with open expressions of frustration with and resentment of ADSF for not addressing their needs or sufficiently valuing their contributions.

Organizational dynamism intensified ADLV's emotional labor and its toll on workers whose job was to intervene when the company failed to meet users' expectations. Yet AllDone often failed to meet these workers' own expectations of the company. I came to see Carol not only as a supervisor, but also as a counselor for those suffering from the ills of low-wage contract work—both her own employees and AllDone sellers, many of whom also suffered from economic insecurity. Carol's determined cheeriness and therapeutic skills helped to hold the team together when stresses and strains threatened to pull it apart. Still, the team's displays of familial love were repeatedly punctured by expressions of frustration.

Chapter Five
Phase III and Beyond: Organizational Lag, Managerial Labor, and Rationalization

"As businesses grow and commit more resources to less uncertain initiatives (i.e., with more defined risks and returns), the opportunism gives way to systematic attempts to anticipate and plan for the long term. New tasks entail changes in the necessary traits and skills. In the beginning, a high tolerance for ambiguity and capacity for adaptation are crucial; the subsequent evolution of a business turns on the entrepreneurs' ability to formulate and implement a long-term strategy […]."
- Amar V. Bhidé, *The Origin and Evolution of New Businesses,* 2000

The founders of entrepreneurial organizations initially dedicate their energies to creating a viable product and a market for that product (Greiner 1998[1972]). By the end of Phase II, AllDone had accomplished this goal by combining technological innovations generated in the San Francisco office with the coordinated efforts of its remote teams. Workers in the Philippines helped to draw more users to into the exchange and to facilitate their daily activity, while Las Vegas-based phone agents helped to keep users engaged as AllDone revamped its payment structure to create a more sustainable business model.

In this chapter, I describe how AllDone's acquisition of a second round of venture capital funding triggered the beginning of the firm's transition from early- to later-stage startup. The chapter proceeds in four sections. The first details the process through which executives secured the investment that would fuel the next stage of AllDone's growth. In the second section, I examine how and why the company continued to rely on complementary labor to supplement software systems even as the size of its engineering team expanded exponentially. I attribute the persistence of the relationship between technology and human labor to the enduring dynamism of the organization. The third section details how the Series B round generated a new set of expectations for how, and by whom, the fast-growing firm would be led as it moved one step closer to offering investors a profitable "exit" via acquisition or IPO. Executives addressed this *organizational lag* by deploying *managerial labor* aimed at directing a process of rationalization and professionalization that brought about enduring changes in AllDone's organizational structure. In the fourth section, I explore how employees' relations with one another, feelings of organizational attachment, and subjective experiences of work changed in response to the *culture of rationalization* that accompanied organizational change.

The Road to Series B and the Promise of Profit

As AllDone was completing its transition to a new payment model, representatives of a major national retailer who were interested in developing a strategic partnership contacted the company. AllDone's co-founders were confident that such a deal could serve as a springboard to an acquisition offer. Conversations with the potential partner thus prompted the co-founders to schedule meetings with Silicon Valley VC firms to discuss the company's progress and value.

Following the transition to the new payment model, AllDone's revenue figures had begun to climb steadily. Although AllDone hadn't quite achieved its goal of taking in as much money as it was spending, the company had made substantial progress, and its projections for the future appeared impressive. As Adam, ADSF's director of engineering, would later put it, "It's important to have a story for Series B." AllDone's story was summarized by a simple line graph:

since the transition to coins, the revenue arrow was pointing up and to the right, and executives could persuasively argue that, with the new system now firmly in place, this trend was bound to continue. Adam, a member of the pitch team, recalled sensing the energy that AllDone's story generated in VC offices: 'We had a new business model. We were ready to pop. Investors ate it up.' AllDone came away from these conversations with a $12.5 million Series B investment on favorable terms from Goalpost, one of the most prestigious VCs in Silicon Valley. AllDone's Series A funder had been a VC firm of relatively modest reputation. (The company had been turned down by over 40 other investors). Goalpost, on the other hand, was known throughout the industry for having provided early funding to some of the biggest and most successful companies in tech.

ADSF leaders told staffers that with the support of a VC like Goalpost, the outlook for a highly profitable "exit" had improved dramatically. As Adam explained to attendees of a meeting the afternoon the offer was extended, top VCs like Goalpost 'don't want you to sell for $100 million. They don't give a shit about that and they won't encourage any thinking about that. They want an IPO.' In another meeting, Josh called the offer 'as good an indicator as any that [AllDone] has traction,' while Carter relayed that, 'according to Goalpost, we're in the top one percent of their entire portfolio in terms of our ability to execute. So they have a lot of confidence in us.' Goalpost's investment thus represented validation that AllDone had taken a giant step toward joining the pantheon of tech giants.

There was widespread agreement among ADSF leaders that AllDone's remote teams in the Philippines and Las Vegas had played a crucial role in the achievement of this important milestone. After the deal was reached, Peter reported that investors had been impressed by AllDone's "efficiency": he said the company had become known as the only startup in its market that had figured out how to acquire a high volume of sellers without a sales force. AllDone's seller acquisition strategy had been enabled by a combination of software and human infrastructure: Members of AllDone Philippines first provided "training data" to teach a software algorithm to "crawl" the web to find potential sellers; ADP's SEO writing team then helped to bring buyers into the website whose requests were forwarded to potential sellers to persuade them to sign up with AllDone (see Chapter 3). To celebrate the Series B round, Chloe rented a "party bus" and planned a trip to Northern California's wine country for the ADSF team. At one winery, I asked Martin, one of AllDone's co-founders, about some new tasks that ADP might soon be taking on. "Portals," he marveled—referring to the administrative pages that integrated ADP team members into AllDone's computational infrastructure—'are what made the difference for AllDone—what's separated us from other companies.' When Bill brought up a small, struggling startup that had recently contacted AllDone seeking an acquisition offer, Martin said, 'they're where we were before Team Philippines.' In Martin's view, organizing a team in the Philippines had opened the door to opportunities for growth that few other startups were afforded.

It was clear to AllDone executives that AllDone Las Vegas, too, had made the Series B round possible. AllDone's subscription payment model had limited its revenue growth. ADLV's emotional labor was integral to the transition to the coins system, the results of which had made AllDone so attractive to investors (see Chapter 4). During a party in Las Vegas to celebrate the completion of the project, Carter told ADLV staffers that their efforts had contributed to the company's record-setting revenue intake. As Carter later reflected in an e-mail, "[w]e absolutely could not have made this critical transition without Vegas." What's more, as potential investors were testing out AllDone by placing requests for services, ADLV had secretly been responsible

for shepherding their "VIP requests" through the system. ADSF software engineers created a system that flagged user e-mail domains that might be associated with potential funders; when these users placed a request on AllDone, their requests were forwarded to ADLV team members, who would place calls to relevant sellers and encourage them to promptly submit quotes. Augmenting AllDone's matching system with emotional labor allowed the company to discreetly offer VCs a better experience. The remote teams thus played an integral role in the company's ability to secure its Series B funding.

The new funding would have important consequences for the company's strategic direction, organizational structure, and organizational cultures. One thing that would not change, however, was the company's reliance on pairing software systems with complementary human workers.

The Institutionalization of Complementary Labor

With considerable financial resources at their disposal, AllDone's leaders sought to combine the company's two prior strategies. As in Phase I, AllDone would again seek to grow the organization, the user base, and the product; this time, however, expansion would occur within the revenue generation framework that was introduced in Phase II, which would help the firm remain an attractive target for later-stage VC investments. The dual goals of expansion and revenue generation existed in tension with one another: on the one hand, AllDone sought to draw more users into the website and convert them into active, paying customers; on the other hand, the company's attempts to monetize their activities could spur user dissatisfaction and exit. These tensions contributed to the reproduction of machine lag and human lag, as developers' ambitions continued to race ahead of technology, and users continued to chafe at AllDone's software systems. The expansion and institutionalization of AllDone's complementary work teams to address these problems demonstrated executives' recognition that machine lag and human lag were not temporary features of software development to be shed by a more mature firm. Instead, the dynamics of the enterprise necessitated the perpetuation of an ever-changing array of human-machine configurations.

Much of AllDone's newfound funding was funneled into the engineering team, greatly expanding the company's capacity to develop software. Members of the organization began to confront the possibility that these developments could sever the previously symbiotic relationship between technological systems and human workers. ADSF's engineers were making significant progress toward automating the labor-intensive processes of vetting buyer requests and manually matching buyers and sellers, tasks that now occupied nearly half of ADP's 200 workers. Automation was accomplished through the implementation of machine-learning algorithms that were "trained" by the vast dataset of workers' past operations. The vetting algorithm used buyer request text and metadata to determine which were most likely to be rejected by human screeners, and the matching algorithm learned which types of requests, in which locations, were most likely to be matched with particular types of sellers. The software algorithms took over an increasing percentage of each task as developers continued to tune them. ADSF engineers had formulated plans to automate other ADP functions as well (e.g. running background checks on sellers, and sending follow-up e-mails to apologize to buyers who didn't receive quotes), or to create systems that would offload ADP's labor onto users (e.g. the process of categorizing sellers in the AllDone database). Carter asked Ross, the leader of ADP's

matching team, to create detailed plans to prepare for the termination of a significant portion of his team. Hoping to cushion the blow of the anticipated layoffs, the co-founders reached out to executives at other startups in search of a company that might "adopt" the team for its own purposes.

Although much of ADP's reverse substitution was itself reversed by automation, the anticipated cuts to ADP's workforce never materialized. In fact, as the ranks of ADSF software engineers increased from eight to 50 over the subsequent two years and 100 a year later, ADP swelled from 200 to 800 workers, before dropping a year later to 450. Meanwhile, recognizing the importance of emotional labor to the company's continued success, executives moved the company's phone support functions to an office in the Salt Lake City area (ADSL), where a team that came to total nearly 250 employees replaced ADLV's team of 10. Even as AllDone raised three additional rounds of VC funding amounting to over $250 million—and achieved a valuation of over $1 billion—technological change increased demand for existing functions that could not be automated while creating new work in and around changing software systems. Below, I detail instances in which AllDone used human workers to compensate for the systematic reproduction of machine lag and human lag.

Machine Lag and Computational Labor

Although software engineers' increased rate of innovation led to the automation of some computational labor, it also created new demand for computational labor designed to balance the interests of sellers with those of the firm. One example emerged when ADSF's product team attempted to build new software systems to mitigate the tension between user growth and revenue generation. Although the transition to the coin system had enabled revenue growth, half of the sellers who had submitted five or more quotes per month before the transition were no longer submitting any quotes afterward, indicating widespread dissatisfaction. Previously, a seller with a subscription could, without incurring any additional costs, send a quote to a buyer whose request was vague simply to ask for more information. With the introduction of coins, sellers were submitting buyer requests to far greater scrutiny, because they now had to risk their money on a job that might be revealed to be a poor fit once they paid to submit a quote and then received additional information from the buyer. Even sellers who had not previously been using the subscription model found themselves subject to a more restrictive refund policy.

As the nationwide rollout of coins was approaching its final week, ADLV team member Sharon was already discovering some of its second-order effects. The issue concerned her enough that she brought it directly to my attention via e-mail.

> Because [sellers] are alot more aware of everything that is taking place in AD now with the coins program, alot of us are getting comments from the [sellers] asking why they have to spend coins to send responses that ask "need more info". They are saying that the heading says X amount of coins to send a "quote" and that in essence is not what they are doing.

The complaints of an attorney who used AllDone to find new clients were typical—he left negative feedback after passing on requests on thirteen occasions:

> Your service is a rip-off. You now want people to pay for "leads" and you are not putting enough information in the leads to even have a guess as to what is needed. […] Is the case contested? Are

there children? Is there a case filed already? What county? […] To have to pay for such a generic request, where I would need more information to answer properly, is simply useless to me. There is no way to get sufficient info to know if we can or can't do the case […].

The company had long been aware that for many sellers, the questionnaires that buyers were required to complete before submitting a request were insufficient. Under the coin system, it was more important than ever that sellers have an opportunity to ask buyers specific questions about their projects before paying AllDone to submit a formal quote.

In response to these concerns, AllDone's product team sought to devise a process that would allow sellers to solicit more information from buyers while simultaneously ensuring that they continued to pay to pitch their services. ADSF engineers first tested a "Q&A" feature that would allow a select group of sellers to ask buyers for more information about their requests before submitting a quote. However, some sellers discovered that they could use the Q&A feature to subvert AllDone's payment model: rather than simply posing a query, sellers might include their contact information or a price estimate as if they were submitting a paid quote; others asked buyers to reply with their own contact information. To combat sellers' abuse of the system, ADSF's product team publicized guidelines specifying which kinds of questions were permitted and forbidden, but the issues continued. When engineers built software algorithms to filter phone numbers and e-mail addresses out of Q&A messages, sellers developed "workarounds" like spelling out their phone numbers ("seven seven zero…") and e-mail or web addresses ("Ted [at] AceConstruction [dot] com"). When some sellers abused the system, others who had abided by the rules would denounce the violators in rancorous messages to the buyer and to AllDone.

In light of sellers' problematic responses to the Q&A feature, the product team called upon complementary workers to prevent sellers from circumventing AllDone's payment model. One developer created a web portal through which members of ADP could screen each question or answer before it was distributed to users. Rebecca, the Q&A team's leader, trained workers, managed their schedules so that moderation duties would be fulfilled around the clock, and audited the team's performance. Workers studied the program guidelines and vetted each message accordingly, editing or deleting those that violated AllDone's guidelines. They also edited questions for grammar and spelling errors to improve buyers' impressions of AllDone sellers. Users whose messages were edited or deleted received an automated e-mail informing them of the nature of their transgression. When the Q&A program was proven to have no significant deleterious effect on quote volume, it was instituted site-wide, and Rebecca recruited additional team members to staff the portal. Whenever a market participant submitted a question or response, day or night, workers in the Philippines would be on call to vet it immediately and distribute only approved messages to buyers and sellers. Workers' tacit knowledge and common sense allowed them to determine which sellers were trying to cheat the system, helping AllDone balance its goals of expansion and revenue generation.

AllDone's architects had been unable to singlehandedly engineer a redefinition of the marketplace's fee structure. First, ADLV's emotional labor helped sellers adapt to the new payment model; then, ADP's computational labor defended against users' workarounds, allowing AllDone to introduce a new communication platform that preserved the company's revenue stream while reducing sellers' dissatisfaction with shortcomings of the coin system. The cycle of users' workarounds and AllDone's ineffective technological solutions ended only when AllDone injected human discretion into its technological infrastructure. Workers' ability to

understand the guidelines, and to use tacit knowledge to judge users' intentions and discern which messages were acceptable and which were not, stabilized AllDone's new payment model.

Other examples of ADP's non-routine work abounded as the workforce expanded to keep pace with the company's ambitions and the demands of a growing user base. During the slow process of teaching, testing, and refining the automation algorithms, request volume continued to grow, keeping the matching team occupied even though the percentage of matches that they handled was dwindling. By the time automation was complete, ADSF's product team had found new tasks for some of the displaced workers. Many took advantage of the tacit knowledge and common sense that gave workers a comparative advantage over computers. For example, some were assigned to check each consumer request to determine if it could be displayed publicly on the website, or if it contained private information and should thus be hidden. Others verified that potential sellers whom AllDone wished to recruit were in fact actual service providers. (The machine-learning algorithm dedicated to this task had only a 70 percent confidence rate.) When ADSF managers wanted to boost the volume of user reviews that appeared on seller pages, they tasked members of ADP with manually importing reviews that appeared on sellers' own websites or Yelp pages by creating a new buyer account to correspond to each review . In another task, ADP team members were asked to rate the quality of 2,000 seller quotes across three dimensions to help managers in San Francisco assess the aspects of quoting with which sellers needed the most help.

Reverse substitution, too, remained relevant, particularly in helping developers test experimental functions without having to perfect their code. Managers in San Francisco created a new, cross-team division called AllDone Workshop that was designed to mobilize human workers to stand in for software in implementing experimental features. For example, the product team devised a feature whereby sellers could automatically send quotes to buyers whose requests matched sellers' preferred specifications, rather reading and responding to each incoming buyer request individually. During the initial phase of the experiment, members of ADSL hand-selected sellers who they thought would benefit from the program, called those sellers to explain the system, and then sent those sellers an online form through which they could sign up. Then members of ADP performed what one employee called the "gruntwork" of manually sending quotes from each seller's account "automatically." The system was also designed to automatically grant sellers a refund whenever buyers did not reply. However, in some cases, buyers would reply, but only to politely decline the seller's offer. In these cases, the sellers were able to report to AllDone that a refund should be granted. Eventually, if the feature proved successful, developers planned to use computational text analysis to confirm these cases; however, in the early stages of testing, workers in the Philippines would stand in for software algorithms and review sellers' refund requests. The results of the auto-quote experiment were "promising" enough that the project was eventually displaced from AllDone Workshop and written into code.

Finally, computational labor aimed at enacting workarounds also continued. In this case, workers whose tasks had been automated were often moved into other functions that could not be fully automated and were expanded to keep pace with the company's ambitions. For example, by late 2015, the largest sub-division of ADP was enacting workarounds to support AllDone's SEO efforts to support user growth. ADP's writing team had swelled to 600 members, its productivity now enhanced by software algorithms that automatically generated part of each

blurb, leaving workers to add a smaller dimension of human variability that still appeared to pass muster with search engines.[49]

Human Lag and Emotional Labor

As the engineering corps grew, ADSF's rates of experimentation and production increased. When developers worked to optimize AllDone's systems, they introduced the possibility that users would struggle to adapt to novel and sometimes opaque systems. Emotional labor remained crucial to sustaining sellers' trust amidst continual innovation and periodic price increases.

The activities of the engineering sub-unit in charge of AllDone's matching algorithms provide one such example. Previously, buyer requests had been distributed to all of the eligible sellers in any given area, with AllDone accepting quotes from the first five sellers to respond. But as AllDone grew, some cities became saturated with hundreds active sellers, many of whom were frustrated that they could not respond quickly enough to be one of the first five sellers to submit their quotes to buyers. ADSF's software developers began to use machine learning to optimize request distribution, gathering information about sellers' past behavior to determine who was most likely to submit a quote on each incoming buyer request. The software then "reasoned" from this information to generate decisions about which sellers should receive new requests. These new matching algorithms were designed to send requests to only as many people in a given locality as the models predicted would be needed to deliver at least three quotes to each buyer within 24 hours.

As ADSF tinkered with the matching algorithm, some of the sellers who had previously been frustrated that they received too many requests that they were unable to quote on were now upset that they were no longer receiving enough requests at all. When sellers noticed that something had changed, they could reach out to phone support agents who worked to reassure them that AllDone was refining its systems to create the best possible experience for its users. The growth of AllDone's phone support team reflected the significant role that workers continued to play in educating users and keeping them engaged amidst ADSF's frequent experimentation with market systems.

AllDone's developers did not anticipate that the company would ever settle on a perfected, static set of rules and systems. According to Brett, ADSF's lead on the matching algorithms, "there are no easy answers" because software algorithms cannot determine "one clear right way" to balance the shifting interests of buyers, sellers, and the company. Frequent changes to the product put pressure on AllDone's phone support agents to assuage users' concerns and to transmit user feedback to ADSF so that it could be incorporated into further changes. For another project, Brett's team used machine-learning algorithms to formulate a dynamic pricing model. The model was trained on data from past requests to predict how many sellers would be likely to submit a quote for each new request. If the model predicted that a request would be desirable, it would charge sellers more to send a quote; if it predicted low demand, prices would decrease. Even before releasing the feature, Brett was anticipating the response: "I know [sellers] are gonna be upset" when the program is implemented and some discovered that they would have to pay more to submit quotes, he explained. Brett confirmed

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[49] The size of this team would eventually be cut in half when the effect of its efforts on search results appeared to diminish.

that ADSL would again play a crucial role in intervening to sustain sellers' trust in AllDone as the company tried to squeeze more revenue out of users.

Finally, even as AllDone's operations grew and became more refined, executives continued to view the flexibility of its remote teams as a source of competitive advantage that expanded the scope of the company's experimentation and innovation. One project had members of both ADP and ADSL assisting ADSF with the ongoing challenge of technical recruiting. Filipino workers gathered thousands of software engineers' resumes from LinkedIn. The resumes were then sent to members of ADSL, who received training on ADSF's "engineering culture" to determine which candidates should receive attention from a recruiter. Executives hoped that "operationalizing" recruiting would allow AllDone to cast the widest possible net and identify promising candidates who other companies would miss. The expertise of AllDone's trained recruiting staff was thus enhanced by the tacit skills and flexibility of members of the remote teams.

ADSF's increased pace of production and ongoing experimentation with market rules and systems increased demand for computational labor to help software systems meet developers' needs, and emotional labor aimed at bringing users up to speed with changes. Machine lag and human lag were never permanently "solved," as the company continually recalibrated its systems to balance its own interests with those of its users. The expansion of the complementary labor that addressed these issues revealed that the uneven development of relations between humans and machines was not simply an artifact of an immature firm; instead, the dynamics of the enterprise gave rise to the enduring relevance of complementary labor. However, even as human labor remained a crucial element of AllDone's operations, the structure of the organization, as well as workers' experiences within it, began to undergo significant changes.

Organizational Lag: Expansion, Rationalization, and Professionalization

General theories of entrepreneurship hold that flexible modes of organization are best suited to handle the uncertainty that marks the earliest stages of a nascent firm's development (Greiner 1998[1972]; Shane 2003). Personnel policies, procedures, and reporting relations tend to remain relatively informal, and employees with generalist skill sets are favored. Leaders forego long-term planning as they react to immediate activity in the marketplace.

Over time, the managerial practices that support entrepreneurial firms' initial stages of growth give rise to new problems (Greiner 1998[1972]). As uncertainty is reduced and production ramps up, inefficiencies become more costly; informal communication channels become inadequate for coordinating the activities of a growing workforce; and the infusion of capital requires more formalized accounting procedures. Facing a mounting set of burdens, founders seek out skilled managers capable of introducing business techniques to lead the company into a new period of sustained growth. Leaders develop more bureaucratic routines and procedures, hierarchical communication and coordination systems, and mechanisms for monitoring and controlling employee effort. A firm's division of labor typically expands within a more formally delineated organizational structure.

AllDone's Series B round accordingly entailed not only an influx of cash, but also new expectations for how the firm would be managed as it faced endogenous challenges associated with growth and exogenous pressures from its new VC investor. Executives confronted *organizational lag* as they sought to bring the structure of the firm in line with these new

expectations. They hired leaders to undertake the *managerial labor* of building and bolstering bureaucratic routines, systems, structures, and work standards to prepare the organization for a new stage of growth and its escalating potential for profitability. This process of rationalization and professionalization resulted in the increasing specialization of work roles and the ascension of employees with domain-specific expertise and academic or professional backgrounds in management and administration to the managerial ranks across all three of AllDone's work teams (Greiner 1998[1972]; Bhidé 2000; Hellmann and Puri 2002; Townley, Cooper, and Oakes 2003).

San Francisco

A comparison of ADSF's hiring following its Series A and Series B fundraises illustrates the increasing salience of organizational lag and managerial labor. After raising its Series B funding, ADSF leaders again planned to increase the size of the staff by 250 percent, this time from 20 to 50 employees. The task was to be identical in relative scale to the previous wave of hiring that followed AllDone's Series A round, when the team also grew by 250 percent from 8 to 20 employees. At that time, executives had sought "smart" and resourceful talent to fill non-technical roles—people who could be trusted to take on a broad range of unanticipated issues and find workable solutions in the form of enduring, replicable processes. Paul and Brandon, both friends of AllDone co-founders, had been invited to join the marketing department. Both took on roles that were largely unrelated to their previous work experience: Paul had just completed a J.D. at an Ivy League institution, and Brandon came from the world of Washington, D.C. politics.[50] I, too, began my position as director of customer support and operations manager with no background in those particular areas. Like Paul and Brandon, what I had possessed was the co-founders' faith that I was a "hard-working" thinker who could scale up solutions to a diverse array of problems.

The hiring strategy that followed the Series B round reflected a new set of assumptions pertaining to organizing for a new stage of growth. After the funding was secured, AllDone executives began to meet regularly with Tom, AllDone's lead advisor at Goalpost. Carter shared notes with the ADSF team from the first such meeting, which covered what Tom said were "the things that we tell every Goalpost company to expect" after receiving a Series B round. The first section included "things that we all should know as we scale from 20→50 [employees] and beyond," and expounded on how ADSF's growth would affect its organizational structure. Tom emphasized that AllDone employees should expect to operate within an expanded division of labor that would increasingly be directed by individuals with specialized expertise. First, broad organizational roles would become more focused:

> Early on at a high growth startup like AllDone, the startups' [sic] impact on the world is very small but your role within the organization is very broad. As AllDone grows, our impact on the world will grow more and more but individuals' roles will grow more narrow. This happened at Google, Facebook, etc.

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[50] The sole marketing specialist who was brought on at this time—an MBA with prior experience in business and finance—was let go after just a few months after her search engine marketing projects failed to make a sizable dent in user acquisition metrics.

Tom advised that current employees should grow accustomed to "delegating" decisions that they had previously had a hand in making, and should also "com[e] to terms with the fact that as we grow it's impossible for us each to know exactly what is happening in all parts of the organization," as ADSF staffers had come to expect when the company was smaller. For AllDone to have a shot at becoming the next Amazon or eBay, each employee would have to accept a smaller role within a larger organizational structure.

Second, as the company grew, "senior hires" whose "pay ranges are bigger" would in some cases be inserted toward the top of the burgeoning organizational hierarchy.

> [I]t's always better to promote internally if possible. […] But we will certainly have to promote externally as well and over the next year we should expect to bring in new team members who are sometimes above us, sometimes next to us, sometimes below us.

Not only would ADSF employees have to accept narrower roles, but some would also find that they had new bosses with little prior knowledge about how things worked at AllDone. Because AllDone would be competing with other tech companies for top specialists, it could work with a public relations firm for "help with building [AllDone's] profile within the tech / business community and [to] drive exposure for recruiting purposes. […] [We] need to think about what potential candidates will be most impressed by […]." In addition to its capital, Goalpost would lend its connections and cache to help AllDone compete for experienced professionals who could help to shepherd the firm toward a potential IPO. These changes to AllDone's organizational structure, Tom emphasized, were not temporary, but would remain in effect throughout the company's subsequent development: "This transition will continue forever as we grow to 50, and then 100, and then 1000."[51]

Soon after the new funding was announced, I informed Carter that I would be leaving AllDone at the end of the summer to return to my Ph.D. program full-time. Less than a year earlier, I had entered my position as director of customer support and operations manager with little to no relevant experience. Now, Carter sought my help in finding and selecting my replacement; this time, however, he aimed to bring in a specialist who would bring considerable managerial and domain-specific expertise to the role. We used professional recruiters to locate candidates with prior experience in growing large customer support teams. In interviews, we asked applicants to demonstrate their expertise by telling us about how long they'd worked in the industry, how many team members they had managed, which support "channels" they'd been in charge of (e.g. e-mail, phone, live chat), which employee performance metrics they felt were most important to track, and how they would approach conceiving of and launching AllDone's live chat channel. Jennifer, who was hired to replace me, had previously led operations for another tech startup; before that, she had completed an MBA and then worked at a prestigious global management consulting firm. Jennifer took over day-to-day control of the entirety of

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[51] In demonstrating the persistence of organizational lag and managerial labor beyond my exit from the field, I do not mean to imply that the firm did not experience any further strategic breakpoints that introduced new problems for the organization to solve. This passage does suggest, however, that securing its Series B round represented the first step in AllDone's transition from early- to later-stage startup, when the company began to take on characteristics of a more mature organization (e.g. the expansion of organizational hierarchies, job specialization, and domain-specific expertise) that would endure throughout the remainder of the company's existence.

AllDone's vast remote workforce, assuming my roles as well as Carter's duties overseeing three of ADP's divisions.

Other ADSF employees began to take on increasingly specialized domains in an expanded division of labor and thickening organizational hierarchy. Within a year after I left the company, the team had more than doubled in size and moved to a beautiful four-story loft office with an expanding array of perks to please a growing workforce. By early 2016, ADSF employed 50 software engineers who were divided into specialized teams, and by the end of 2016 that number had doubled. In early 2017, ADSF totaled about 275 employees, with the workforce having become far more gender-balanced and racially diverse than it had been during my tenure.

Philippines

Soon after Jennifer took over as AllDone's head of operations, she and Carter moved ADP's general manager, Veronica—the team's first employee, who had led the team since its inception—into a newly-created position as ADP's "director of culture." An executive general manager named Bin, who held an MBA and had prior experience helping American companies establish and improve business process outsourcing operations in the Philippines, replaced Veronica atop ADP. A year after my departure, ADP had grown from 200 to more than 450 contractors, expanding in another year to about 800. Six hundred were in the SEO-writing subgroup; when that group was halved, the Filipino workforce dropped back to around 450.

Jennifer and Bin worked to further rationalize and professionalize ADP. First, they increased the division of labor within each of ADPs' divisions and oversaw the development of a skill-based progression program that allowed ADP staffers to move between divisions, thus reducing tedium and expanding career ladders. Second, they increased the number of in-person meetings for workers in the Philippines, and added special training sessions for team leaders. The nature of in-person meetings changed as well: gatherings were now geared toward work-related topics and sharing information about the business with team members, rather than simply consisting of morale-boosting festivities. Bin also instituted new work procedures for ADP's division leaders. Previously, managers had set their own work schedules; now, they were required to be online at pre-specified times, and to be available to team members from 7:00am to 10:00am. Finally, Jennifer and Bin also revamped ADP's performance metrics.

Las Vegas / Salt Lake City

During the coins transition, Carter and I had begun (at his behest) to seek a new ADLV team leader to share that position with Carol. Carol would continue to handle the "soft" aspects of the job at which she excelled—building camaraderie, sharing her insights into managing users' feelings, and handling what she often called "drama" in ADLV, or the volatile emotions of team members. The new hire would, I came to realize, take on the job that I had been tasked with as director of customer support, but had failed to fully implement from afar amid the chaos of ADLV's evolving workload: rationalizing operations in Las Vegas. After the transition to the new business model was completed, Mike, an Iraq War veteran in his late 20s who had previously worked at Zappos, was hired to become ADLV's "data person." Mike's projects were

to include helping to develop metrics to assess business needs (e.g. categorizing the reasons users were calling), tracking team member performance, building training and coaching programs, expanding ADLV's division of labor, and identifying and remedying inefficiencies (e.g. shortening call times and better allocating worker schedules to match demand).

Soon, Jennifer would join ADSF and begin to centralize authority over customer support (now renamed "customer operations") in the San Francisco office. Within months, Jennifer was overseeing a staff of eight customer operations specialists in ADSF, who took charge of a variety of tasks previously handled by Carol and Mike, including training new ADLV hires. Jennifer also introduced procedures designed to improve the execution and assessment of new projects, including a checklist detailing the processes to be followed before and after what had previously been ad-hoc launches.

ADLV's success in introducing sellers to AllDone's new payment model had convinced executives of the value of workers who could build and bolster users' trust in the company. When I departed, ADSF managers were again plotting to expand ADLV's duties by adding sales and marketing calls aimed at recruiting and retaining high-value sellers to their existing customer support duties. However, I would soon discover that ADLV's performance did not match Jennifer's expectations. As AllDone acquired a third round of venture capital funding less than a year after my exit, the company made significant new investments in its phone support operations. The small, distributed team in the Las Vegas area was terminated, its functions transplanted to a well-appointed office near Salt Lake City (ADSL). AllDone brought on an experienced phone support team just as it was being laid off by another startup following its acquisition by a competitor. Managers organized a more highly trained staff that operated in a more expansive division of labor and received more rigorous oversight and guidance than had ADLV, as well as higher pay and benefits. Reflecting the importance of trust work to the tech company's future, the new phone team quickly grew to over 100 workers, and by 2017 the ADSL workforce totaled around 250. Although the composition of the phone support team had changed, many of its functions remained similar to those that ADLV had handled: phone agents would educate users about the product, repair relationships with disgruntled users, and work to preserve users' trust in AllDone amid ADSF's continual experimentation with the rules and software systems that structured market activity.

Cultures of Rationalization

As AllDone rationalized operations across its three teams, workers' affective ties to the organization began to change. On each team, friction arose between new leaders and more tenured employees (Gouldner 1954).[52] Executives attempted to transform cultural practices and labor processes to which employees had become accustomed, and in response employees across all three work teams reported disenchantment with a growing company that was taking on an increasingly corporate mien (Greiner 1998 [1972]).

San Francisco

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[52] After my departure from the field, I found myself in a similar position to "Old Doug," the "indulgent" foreman in Gouldner's (1954) gypsum plant. Old Doug was replaced by a manager who evoked dissatisfaction and distrust among employees as he attempted to rationalize operations on the shop floor.

Some members of AllDone San Francisco expressed dissatisfaction as corporate routines and structures evolved to accommodate a larger and more complex operation. Some longstanding employees worried that newcomers were eroding the organization's values. Chloe bemoaned the lack of "diversity of opinion" in the office as a slew of "one-percenters"—MBAs with previous experience in management consulting—were hired. Differences between team members also became more salient as some began to sell their stock options, revealing vast inequalities in employees' grants.

ADSF employees experienced an array of growing pains common to maturing organizations. When AllDone was a smaller company, employees had viewed the office as an open environment that fostered the exchange of ideas. Two years after my departure, Sam, an ADSF software engineer, told me a different story when I ran into him at a quarterly review party.

> Sam says that now AllDone hires a company to come in and set up an internet live stream of the quarterly review meeting that can be viewed by team members across the entire organization. While the presentations were being delivered on the ground floor, Sam watched it on YouTube from his desk upstairs. He said there's no reason for him to sit between all these tall people and have trouble seeing the presentations. "It's a tight ship," he says—there are no longer opportunities for employees to ask questions of the presenters. "We're a big company now."

Whereas in the past quarterly review meetings had provided ADSF staffers with an opportunity to discuss and debate the company's strategic direction, Sam described a non-interactive experience that he could passively observe from his desk. When I worked at AllDone, the entire team had gathered around a communal lunch table for meals and conversation; now, Brett told me, "people don't really hang downstairs" where the food was served, with most choosing instead to take food back to their desks. Brett was becoming frustrated with the proliferation of meetings he was asked to attend, which stretched well into the evening on some days. As the team expanded rapidly, members of the old guard had to adjust to not knowing the names of many of their colleagues, nor what members of other departments were working on. At the same time, an increase in voluntary turnover—which had been virtually nonexistent during my tenure with the company—meant the loss of old friends and familiar faces.

Some found that the passion they had previously felt for the company and for their jobs was waning. Engineers complained that executives were exerting unwelcome influence over their projects. One evening I met Vince at a pub and caught up on how our lives had changed since I left AllDone:

> I tell Vince how all-consuming life as a grad student can be, how it feels like there's always something else I should be working on. I ask if that's what it was like to work for AllDone in the early days. Vince says, yeah, at the beginning we didn't even think it would work [that the company would succeed], but we were all throwing ourselves into it. But as AllDone gets bigger, different people want different things out of it, and it wants different things out of you. Now he has to do work that doesn't interest him as much. His work for AllDone is "no longer an obsession."

Vince's story is a classic tale of bureaucratization and disenchantment. AllDone's early employees had reveled in the thrill that came with seeing their hard work change the trajectory of the product and the organization. But as the organization grew, they found that AllDone was

taking on its own force as an entity independent of the people who had created it, increasingly exerting its control over them.

Philippines

When Carter interviewed Jennifer for the role that I would be vacating, he expressed excitement about ceding control of the remote teams to a confident and commanding leader. However, he worried that Jennifer would lack the competency that I had demonstrated in navigating ADP's and ADLV's sentiment-laden organizational cultures. Carter concluded that although Jennifer's down-to-business personality might ruffle feathers among members of the remote teams, her intensity would be "filtered through Veronica and Carol," who would be able to make the transition more palatable to their employees.

Soon after my departure it appeared that AllDone's new leaders were indeed instituting changes that were altering how ADP team members experienced their work. Members of ADP told me that AllDone had begun to feel less like a "family" and more like just another job in the business process outsourcing (BPO) industry. Less than a year after my departure from AllDone, I spent an afternoon catching up with David, Rebecca, and Natalia—ADP managers with whom I had worked closely—during their first visit to the U.S. Almost immediately, the three began to discuss their recent meetings at the ADSF office with Jennifer and Ken, the leader of the new team in the Salt Lake City area. Rebecca turned to me to explain, her brows furrowing as her face took on a look of concern:

> Ken came in talking about how "we're a sports team, not a family." This didn't sit well with the crew from ADP: 'We've been at AllDone for a long time, and it's always been like a family for us,' Rebecca says, adding that after the meeting she took one of Jennifer's new ADSF hires aside and told her that 'It's important to maintain the culture.' I ask if Jennifer and Carter are aware that some people don't seem to like working with Ken. They say they don't know—Carter gave a nice toast in Ken's honor at the quarterly review party in which he said that after talking to Ken for a few minutes, he knew that Ken was their guy. Apparently Ken is very knowledgeable about business operations, having been the team's leader when many of its members were still working for GrubHub (before they were hired by AllDone).

For years, Carter had told ADP staffers that the most important thing they could do for the company was to nurture and protect their culture of AllDone Love as the firm grew. Now, ADP team leaders felt that new managers who did not understand the value of AllDone Love were trying to "standardize everything" across AllDone's three teams, eroding the qualities that had made ADP feel special.

Two years later I spoke with Una, an ADP assistant manager, over video chat. I asked Una how things were going at AllDone, and whether the company had changed in the years since I had worked there.

> U: We did a big shakeup since the days of Veronica. When she left, it was horrible. Especially for those of us who started out with AllDone as something that is—for me, I started out with AllDone just so I would have something to do during home time. I started out working with Veronica, Rebecca, Ross—it [was] a hobby. (Laughs and smiles) We *never* considered it as work. With the new setup it's really not the same thing.

B: Is it that there are more performance metrics now?

U: We have more accountability I guess, more change in processes and all that stuff. I think for me the hardest transition was that more new people were placed in upper management and then [we] had to do transfers [to different departments] and all that. We were like regionalized people when we started. Right now I think there's been a little bit of sharing of cultures.

B: What do you mean by that?

U: A little bit of the old still remains, but it [i]s more [a case of the] old culture adjusting to the new one. We kept telling ourselves, 'Well, AllDone is a big thing which used to be a dream. Maybe we need to grow up a bit.' Last April, last month, all the team leaders were in Manila for a retreat; we learned about leadership and all that stuff. We were asked to do yoga. (Laughs) We were asked to arrange ourselves according to tenure. I found myself at the beginning of the [line]. In that group I was the oldest member of AllDone. Many of the old friends have gone. Like David is already gone.

B: There's been lots of change as the organization grows.

U: ADP is four to five hundred, with lots of new teams. We are structured—very, very structured.

B: Are there more levels of people within each team?

U: We have one overseer for all of ADP. I'm in the HR department. You look at [how a typical] BPO [firm is] structure[d] and it's AllDone now. Metrics. All of the [department] heads are like—you can't find a housewife working as [department head anymore]. If I was applying now, I won't be able to [get my own job]. Now more BPO-experienced people—our team, they say I haven't had any experience in the BPO industry, so how would I know? But they say it's exactly what's going on in the BPO industry. We have coaching sessions, quality [assurance], onboarding. Another department [specializes in] hir[ing] and train[ing] workers. There's HR, QA, operations. I wasn't expecting it would be this big.

Una identifies how the company's evolution into a later-stage startup affected the character of work and the texture of work-life for ADP staffers. Among the many new employees were "more BPO-experienced people" and new layers of upper management. The teams had become "very, very structured," with more specialized departments and job functions. In the past, working for AllDone had felt like "a hobby," a company in which "a housewife" like Una without prior BPO experience could work her way up the ranks to become a team leader. Now, Una realized that her expectations would have to change ("we need to grow up a bit"), and that her job with AllDone would in some respects now feel the same as would a job with any other company in the BPO industry. Working for AllDone had previously been a "dream"; now, it was becoming something far more mundane as executives shed the "old culture" and neglected the relational work that had made Una feel as if her time on the job was like time spent with friends and family (Mears 2015).

During a visit to the Philippines less than a year after I left AllDone, Veronica echoed these sentiments, explaining that her new supervisors now expected her to demonstrate a higher level of organizational acumen and accountability. Veronica had planned two dinners with team members that she invited me to join. She told me that Bin had asked for her "agenda" for the dinners. 'Carter never wanted a dinner agenda,' she told me, explaining that Carter had seen

value in hosting a team get-together simply for the sake of building camaraderie. "I was spoiled by Carter," she concluded. Veronica also told me that Jennifer had chided her for occasionally letting important e-mails go unanswered for more than 24 hours, which Jennifer viewed as unacceptable. Jennifer had told her, 'We are a big company now, so we can't be as laid-back about things as we were in the past.' Veronica told me that she missed the old days when Carter and others from ADSF would visit the Philippines for team meetings and then spend extra time traveling to vacation spots around the country with she and other team members. 'Now Carter comes and wears a collared shirt' to meetings, rather than the t-shirts he wore in the past, she told me. 'People aren't used to it. Una said he looks different. He doesn't have time for fun now when he visits. It's all business.' Like Una, Veronica noticed that Carter had backed off of the relational work (Mears 2015) that made ADP staffers feel that they were not only his employees, but also his friends.[53]

ADP managers were surprised to find that their new supervisors not only eschewed the language of love, but also expected them to independently articulate matters pertaining to their divisions in the language of business that had long prevailed in the San Francisco office. Rebecca, David, and Natalia described their meetings at the ADSF office: after each of the ADP leaders delivered their presentations, they told me, Ken had asked tough—and, to their minds, irrelevant—questions. One example of such a question was, 'How long does it take for a new recruit to become an expert?' The fact that they viewed this as an irrelevant question shows how ADP managers had grown accustomed to meetings as venues for building morale and sharing praise, rather than for developing business strategy. Indeed, during my time at AllDone, ADSF staffers had generally refrained from quizzing Veronica and Carol on the strategic implications of their teams' performance.

As with members of ADSF, some of the difficulties confronted by ADP managers pertained to issues faced by most fast-growing organizations. I asked the three managers to tell me about the biggest changes in their work as the size of ADP had more than doubled in the 10 months since my departure from AllDone. Rebecca said that she no longer knew all of her team members personally. David, who headed e-mail support, said that his job had become far more complicated, with more layers of personnel to consult as he made decisions. There were now five different members of ADSF responsible for answering different types of queries when he needed information: for example, one was in charge of questions about bugs in the software; another handled legal inquiries; and another coordinated social media. Whereas in the past he could send his questions directly to the top of the chain (to me), he now had to go through additional layers of management before he could get a question to Jennifer. David was also afraid that his customer support team would soon lose their jobs to ADSL. ADSL's large team was able to handle far more calls than had ADLV, which reduced the number of users who resorted to sending e-mail inquiries. Meanwhile, members of ADSL were being trained to respond to user e-mails in their spare time between calls. All three of the ADP managers were anxious about meeting rigorous new performance goals that Bin had laid out for their teams, and worried that they were already falling behind. Some were also nervous about being asked to independently generate process improvements to make their teams function more efficiently. This, too, stood in

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[53] Mears (2015) shows how employers can perform relational work to produce commitment among workers rooted in the misrecognition that work is primarily about friendship (or, in this case, family) and fun rather than a relationship of exploitation. Here I suggest that as the organization grew, ADP employees' ties with managers began to feel more like wage-labor relationships and less like friendships than they had previously.

contrast to my tenure at AllDone, when leaders rarely, if ever, solicited such suggestions from members of ADP.

Additionally, I learned that members of ADP were questioning why they did not seem to be sharing in AllDone's ballooning wealth. At a dinner with Veronica and eight other team members in Manila, the conversation frequently switched from English to Tagalog and back. In our cab ride back to the hotel where we were staying, Veronica confirmed that one major component of the discussion had been around team members' desire for the benefits that would come with being recognized as full employees rather than independent contractors, as well as their requests for an office where they could work when rainy weather caused internet disruptions and brownouts in their homes.

> 'Especially with all this [Series C] money—we keep telling the team that we have all these investors, and they are asking, "What does this mean for us?" I know we need engineers [in San Francisco], but I don't see why we [in the Philippines] can't have this too.' Veronica goes on to explain that there's someone at her shared workspace who has helped lots of American companies incorporate in the Philippines, and that it would be easy for AllDone to do. I ask her what that would mean for the company. Veronica presumes that AllDone would incur additional costs in the form of taxes paid to the Philippine state, plus costs associated with providing employment benefits for workers.

As AllDone raked in VC funding and began to feel more like a typical corporation rather than a "dream" or a "family," the material gulf between Filipino employees' circumstances and those of ADSF became more salient. Given the money flowing into ADSF, some began to question why the company would not make relatively minor investments to improve conditions for Filipino workers.

Las Vegas / Salt Lake City

The nature of ADLV's work had changed dramatically over a span of less than a year. Agents were working harder and more flexibly, handling tasks that required greater levels of skill and caused workers more distress, and creating more value for AllDone. The events surrounding AllDone's Series B round generated two additional sources of stress and frustration for the team: a failed succession, and the fact that in spite of their more difficult workload and AllDone's newfound wealth, team members' compensation had remained largely unchanged.[54] Amid these developments, ADLV team members—and even team leaders—gave fuller voice to their feelings of neglect and betrayal.

The brutal pricing transition was followed by an initial burst of camaraderie (team members received modest bonuses and Carter and I came to town to host a small gathering at a downtown Las Vegas cocktail bar). However, tensions quickly surfaced once Mike was introduced to the team the following month. ADLV staffers told me that they had initially been suspicious of me when I had joined the team, but that they had come to "love" me because I

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[54] Carol was now on salary and received benefits, and two or three longer-tenured team members took on additional tasks and made an extra dollar or two per hour.

"listened" to them.[55] When Mike joined the team, staffers complained that he was arrogant, lording his knowledge over them and imposing rules arbitrarily. Mike may have known the Zappos way inside and out, but some team members resented him, believing that he was uninterested in learning how things worked at AllDone, and that he devalued their decades of work experience. Indeed, few felt a personal connection with Mike, and personal connection was the currency of the team culture. This placed a greater burden on Carol as she struggled to keep the peace by supporting disgruntled workers without undermining Mike's authority. Meanwhile, I found it difficult to manage Mike remotely. He often struggled to sustain focus on tasks like analyzing spreadsheets, writing reports, or developing and implementing new processes. I leaned on Mike to research and accomplish things that I didn't know how to do, but he was often unable to deliver. As a lame duck on my way out the door, I felt little incentive to hold Mike's feet to the fire, which would have made us both uncomfortable.

In addition to the tensions that arose after Mike joined the team, morale soured further after AllDone secured its Series B funding round. To share the news with ADLV employees, Carol and Mike gathered the team for a lunchtime celebration that stretched into the afternoon. When team members were told about the new funding, Mike told me, "they went bananas." ADLV employees expected that some of the funding would be funneled into wage increases. Earlier in my tenure working with ADLV, Carol had told me about how she set wage expectations with new hires: "When they took this job, I said, 'This is the price: 10 dollars an hour, and there it is. AllDone will grow and other things will come. As of now, this is what it is.'" Over the previous year, when team members had asked about pay increases, Carol would return to this mantra, implying that management would re-evaluate team members' compensation when the company's outlook improved. The Series B investment appeared to indicate that this time had come.

However, ADLV employees' excitement quickly turned into disillusionment. As the funding arrived and I began discussions with Carter about increasing ADLV's compensation, executives also received word that Tanya, a former ADLV employee, had filed a complaint with the IRS about AllDone's employment practices. She had tried to claim unemployment benefits after being fired, but her claim was rejected because she had worked as an independent contractor. Tanya then argued that she had been misclassified—an assessment shared by AllDone's legal counsel.[56] Carter told me that before AllDone could increase ADLV's wages, we would first have to find a way to get ADLV on W2s—the tax forms distributed to full-time employees—for the purposes of legal compliance.

However, Carter wanted to accomplish this without adding ADLV to AllDone's payroll. He said that if ADLV staffers were on company payroll, AllDone would be legally required to

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[55] Perhaps my attentiveness was in part a byproduct of the fact that I was eager to listen to them in my dual role as a researcher.

[56] According to guidelines provided by the Internal Revenue Service (2017), "[a]n expectation that the [employment] relationship will continue indefinitely," "a regular wage amount" for hourly work, "[t]raining a worker on how to do the job," instructions on when to work, and "[e]valuation systems to measure the details of work" are all indications that a worker should be classified as an employee. Perhaps because they assumed that "online" workers are qualitatively different from employees who work in an office, ADLV team members may have been largely unaware that their status as independent contractors could be called into question. It is possible that executives in San Francisco, too, were not fully aware of they company's legal obligations to its domestic distributed team given their prior experience with hiring Filipino contractors online.

offer them the same health benefits that employees in San Francisco received. Owing to the higher average age of ADLV workers, this would, he said, jeopardize AllDone's ability to provide generous health benefits to ADSF staffers. We found a way to get ADLV on a payroll system run through a firm that partnered with oDesk for precisely these situations, so that ADLV's employer of record would be an outside shell company. ADLV employees could choose to purchase health benefits, though it seemed highly unlikely that any could afford to do so given their relatively low wages and the high cost of the plans on offer. To avoid potential future legal issues, AllDone also paid out back overtime pay to current employees who had worked over 40 hours a week or over eight hours a day in the past. (Employees were not let in on the reasoning behind that move.) AllDone's employment attorney offered fulsome praise—most companies, she said, find that they can get away with misclassification for years even after complaints are filed, but she said that AllDone seemed eager to do the right thing.

Once AllDone moved ADLV onto the new payroll system, Carter didn't want to go through with giving them a raise, because even if their wages hadn't yet been increased, their cost to the company had. AllDone now had to pay administrative fees to the employer of record, and the company was also now responsible for paying half of employees' Social Security and Medicare taxes, which had previously been shouldered by workers. I protested that employees' take-home pay would actually *decrease* if we didn't give them a raise due to mandatory tax withholding for full-time employees, which would surely anger team members. Carter proposed that I could still pitch this as a raise because employees' overall tax burden would be reduced given that they would no longer be paying self-employment taxes (though I noted that this may not be true for those who had been counting business expenses as deductions). For weeks I tried to revisit the discussion and steer Carter toward dipping into the $12.5m to offer substantive raises to the team, but he would often delay these conversations or brush them aside.[57] I felt very uncomfortable with the situation, which highlighted the stark contrast between how workers in San Francisco and Las Vegas were valued by the company. I also worried about the strain that this episode was causing Carol. As she told me in an e-mail:

> When we first started this team and offered $10.00 an hour. I was able to explain that we are a start up and we don't have the money right now to pay more. That's not going to fly anymore! :) At that time, even though the team members could have taken other jobs that paid more, they accepted the job we offered. And they did that because they believed in us and they trust in us! We can't now turn around and betray that trust, loyalty, dedication and commitment they made to us and AllDone. […]
>
> I wonder, did everyone forget about the coins rollouts? The unrelentless [sic] work this team did making call, after call; while taking the bombardment of abuse—every day! It was heartbreakingly difficult to hear people say the hateful things that we heard about the company we love. But, they did it! And they did it because they believe so much in AllDone. I know our task was only a small part of a bigger plan. But, without our part the increase in revenue, directly thereafter, would likely not have been possible.
>
> This team takes such tremendous pride in being the voice of AllDone and bridging the gap to our customers. Collectively, they have saved more accounts, which in turn brings us revenue; saved

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[57] In contrast, management had just sprung for a lavish post-funding celebration for ADSF, where team members took a party bus to wine country for some fancy tastings and were each given envelopes containing $500 in cash.

more money from demands for refunds, by educating and emotionally engaging our most angry and disappointed [sellers]. Ultimately, turning them around into our most loyal [sellers], "Besties" :) who now sing our praises and go on to spend a lot of money purchasing coins.

And lets not forget all [the] project[s] we are always excited to take on and least of all the [buyers] we connect with. Some, by touching their heart, we make a difference in their life and create a user experience they will never forget.

The value in these things is greater than any metric and is something you can't put a price on!

We understand the financial cost involved to switch the team to salary. But, lets not lose sight of the value we bring and just one of our the [sic] ultimate goals, which is to provide the absolute best customer experience possible.

According to Carol, AllDone executives could no longer present the company to employees in Las Vegas as a small, cash-strapped startup. Team members had placed their trust in Carol that their sacrifices would be recognized when AllDone's coffers expanded. As opposed to the metrics the company tracked to assess the value of the experiments undertaken by software developers in San Francisco, it was more difficult to measure the precise impact of ADLV team members' activities on the company's revenue. Nonetheless, ADLV employees were asking to be recognized for creating value for the firm. Mike, too, worried that ADSF underestimated ADLV's value:

The team members may not build products, create marketing campaigns, or make the website look really cool, but they do something that in my own personal opinion is much more important. At the most basic level, they make the people giving us money, feel good about giving us money.

Here Mike argues that although ADLV's tasks were less glamorous than the labor of innovation that occurred in the San Francisco office, their ability to manage users' emotions was just as crucial to the company's success.

The issue finally came to a head a couple of weeks before I left the company, when Carol and Mike visited the ADSF office to talk with Jennifer about planning ADLV's future. When I arrived that morning, I found Carol in tears in a conference room because Nancy, her most trusted team member, had just threatened to quit. "These girls do so much," she explained, exasperated. She went on to say that the team was being treated unfairly by ADSF, which had failed to recognize ADLV's contributions. Carol broke down again in an afternoon meeting with Jennifer and I, and as she cried she pleaded her case to Jennifer:

Nobody knows how hard these girls work. They're doing it because we've asked them to, to be patient. They don't feel appreciated or valued. […] To get us to do all th[ese new tasks Jennifer had proposed], how do we do it without exceptional people [who we can't attract without paying more]? The exceptional people we [already] have need to be compensated fairly. It's not fair! It's not just money—show them appreciation and recognition for doing an amazing job. Fucking A! All the stuff they do every day, Jennifer, I'm the one they come to. They take it, they take it, they take it all day long for AllDone! […] You've been stringing them along."

Carol lamented what she saw as ADSF's underappreciation and mistreatment of her team and felt that this episode had put her credibility as team leader on the line. She had long been a true

believer in AllDone. Carol's colleagues frequently observed that AllDone was her life—she had little in the way of friends or family outside of work, she appeared to work longer hours than anyone in ADSF (12-hour days and weekends were the norm), and she undertook a great deal of relational work with her team members to keep them motivated when they felt that they were being mistreated by management. As she and others on the team would later tell me, it had gotten to the point where most ADLV staffers were working out of loyalty and allegiance to Carol rather than to AllDone. Carol appeared to worry that if she couldn't deliver raises, it would undermine her charismatic authority and leave her with an utterly deflated and defeated team.

That afternoon, Jennifer asked Carter to let her increase ADLV's wages. While he had consistently brushed my input on this topic aside, he capitulated to Jennifer's judgment immediately.[58] In spite of Jennifer's advocacy for ADLV's wage increase, her assumption of the helm in fact marked the beginning of the end for the team. In early 2014, Jennifer and Paul, the head of ADSF's burgeoning sales team, launched an experimental phone team in the Salt Lake City (ADSL) area to try out a new set of sales-oriented tasks. When I saw Carter at an AllDone event, I asked him why they had chosen Salt Lake City for the test:

> I ask Carter if SLC is better than Vegas. He says he went to do a round of interviews in Vegas and another in SLC to compare the two, and SLC was clearly better. SLC is, he explains, the kind of place to which Stanford MBA graduates return after graduation. "People move there to be with their families, not to go to bars. It's better for the business. Fewer distractions."

The appeal of Las Vegas as a hub for the hospitality industry had faded, and ADSF leadership contrasted the apparent virtues of Salt Lake City with the vices for which Las Vegas is known. They believed that workers in SLC were better educated and more capable than those in Vegas, and that the area's prevailing Mormon culture would translate into less "drama" and more docile workers.[59]

Jennifer traveled to Vegas to inform the team of the ADSL experiment, and told them that the company didn't yet know whether ADLV, ADSL, or both would survive. Soon after the announcement, Chloe invited me to join her as a surprise guest at a party in Vegas to help cheer the team up. (Jennifer was not coming because as she, Chloe and Carol would all tell me independently of one another, if Jennifer had been there, the team would have assumed that it was to fire them.) My old colleagues seemed happy to see me, but the mood was bittersweet. Mike, Carol, and the team were chafing under Jennifer's direction. Jennifer had centralized decision-making in ADSF as she hired deputies to help her oversee the remote teams, and ADLV team members felt that the new managers in San Francisco didn't listen to their input or respect their intelligence. "They talk to us like we're stupid," Carol told me. "They seem to have this elitist attitude. We have no respect at all." Many team members felt that Jennifer over-emphasized metrics (e.g. answering a high volume of calls and meeting goals for call times) rather than focusing on giving users a good experience, which had been a point of pride for

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[58] As in Gouldner's (1954) succession story, perhaps Carter believed I was too close to the ADLV workforce to render an objective decision.

[59] When I worked with the team, however, I never heard stories about employees being distracted by the glitz and glamor of Las Vegas. In fact, most team members seemed to have little disposable income and appeared to spend the majority of their free time in their homes. As far as I could tell, the problems in their lives seemed to be largely rooted in financial distress or romantic relationships.

phone agents. As Wendy put it, her eyes opening wide with sadness: "I work from the heart. Carol hired us for our hearts." Carol expressed her displeasure during a phone conversation:

> You look at Bain [a management consulting firm] on [Jennifer's] resume. […] She doesn't get our culture and values. She doesn't have the same heart about AllDone. […] That love and that value and everything about AllDone is like—it's going [away]. That's what's sad. […] I had to fight to get [team members] 12 dollars an hour. You saw my ugly cry. I say, after all that money [from VCs], that's ridiculous. You know, they just got [even] more [VC funding]. It's not what I expected from AllDone at all. […] Not a week goes by someone [on ADLV] has a meltdown. We pick each other up and keep going. It's heartbreaking.

ADLV's "culture and values" were, in the eyes of ADLV team members, under attack by AllDone's new leadership. The "heart" and "love" that had previously motivated team members and provided a discourse through which to understand their activities—undergirded by the promise that ADLV's fortunes would rise along with the company's—were disappearing. These employees were becoming cognizant of their own allodoxia (Bourdieu 1984) as the gap between disposition and position, between expectation and opportunity, was drawn starkly into view. Those who had loved AllDone found that their love was not reciprocated.

The introduction of ADSL—and the risk to their jobs implied by this development—intensified the disillusionment and dread in Las Vegas. In spite of the team's insecurity, few were looking for new jobs. It was clear to Chloe, Mike, and I that ADSF leaders had already made their decision. (Chloe speculated that Jennifer and Carter had okayed the party "because they know what they're doing is shitty.") Mike, who was younger and had experience in the tech world, quickly used his connections from working at Zappos to find a new job at a Las Vegas-based startup. I was surprised to hear Carol maligning Mike for his lack of loyalty to AllDone while simultaneously criticizing Carter and AllDone for its lack of loyalty to ADLV. Most of the remaining members of ADLV with whom I spoke shared Carol's ambivalence: they were disappointed and angry with AllDone, but at the same time, they were holding out hope that ADSF would find a reason to keep them around. It seems likely that some members of the team didn't anticipate finding anything on the job market better than unemployment checks for themselves.

After the party, Carol and I had a long and emotional conversation in her car en route to my final stay at the "AllDone B&B" (her spare bedroom in North Las Vegas, where I had often stayed during my work visits). Carol explained that the team was devastated and heartbroken (surely none more than Carol herself). She said that nobody in ADSF understood how close ADLV's remote workers were to each other—closer, she claimed, than the employees in San Francisco who shared physical proximity in an office. She also lamented how ADSF management had treated her team. "It's not what you do or what you say," Carol explained, outlining her managerial philosophy, "it's how you make people feel." "How do people feel?" I asked. "Worthless," said Carol. She explained ADSF's failure to "respect the people who paved the way." Jennifer's team's public expressions of excitement about the talent and intelligence on offer in SLC's labor market came across as insensitive and disrespectful to members of ADLV, who felt that in comparison they were seen as "stupid." ADLV had helped to build the company, and now it was being cast aside without receiving the appreciation, recognition, and rewards that employees felt they deserved. "People are not disposable," Carol said she had told Carter in an e-mail. "Family is not disposable."

Carol was soon stripped of her duties as ADLV team leader, and day-to-day management shifted to two operations managers in San Francisco. Carol angrily said that she was no longer putting in "12-, 14-, 16-hour days" because "it doesn't matter anymore." (Three months later she told me, "I'll never put this [much] energy into a job again. *Ever*.")[60] Jennifer asked Carol to spend a few weeks at the Salt Lake City office as an "Ambassador of AllDone Love," tasked with transplanting ADLV culture to ADSL. "Is that all I'm good for?" she said bitterly. "They'll use me to make them happy, and then, 'see ya.'" ADLV was finally shuttered in August 2014, a year after Jennifer had begun to transition into my old role. The phone team in SLC quickly grew to over 100 workers, an acknowledgment of the importance of interactive emotional labor to the tech company's future. Carter had previously assured Carol that she would always have a place in AllDone, and he tried to open a "life coach" position for Carol as a member of ADSL's HR department. However, Ken didn't seem to want her there, and Carter claimed to be unable to intervene further on Carol's behalf. He tried to make things right by increasing her employee education allowance and allowing her to use it to get training as a life coach as part of her severance package. "I believed in AllDone, and I made the team believe," Carol had told me in her car three months earlier. She said she felt that she had sold her team a bill of goods.

ADLV agents' loyalty had not been rewarded, and they had not been the "venture laborers" (Neff 2012) that some had thought or hoped they were becoming by working for a startup. Owing to a misrecognition of their position within the startup economy, some ADLV employees seemed to have believed that they may be in line to capture a meaningful portion of AllDone's skyrocketing valuation. At a party at Carol's house, ADLV team member Rodney told me, 'I'm convinced it's gonna be huge—I think AllDone is gonna be the next Google. There's gonna be receptionists who become millionaires.' If receptionists could strike it rich in Rodney's imagination, it seems likely that he believed that phone support agents, too, would share the bounty. On the anniversary of Amazon's founding, Wendy sent the team an e-mail that compared AllDone to the tech giant. "Since we work for a company that is going to have this success... Where will we be in 18 years... Oh the Places WE are heading for!!!" Carter had told staffers that there would be opportunities for their careers to grow if the company succeeded; now, things were going well for the company, but not for the team. In this way, ADLV staffers were like some of the AllDone sellers whom they counseled. Both phone support agents and sellers were integral to the company's success, but many were excluded from the rewards that resulted from AllDone's growth, and their relationship with the company could be instantly destabilized by the whims of managers in the San Francisco office. Instead of ascending with the "rocket ship" that they had helped to launch, ADLV team members found themselves disillusioned and discarded members of the precariat.

ADP's leader, Veronica, would also soon feel betrayed by the company to which she had given so much of her life as general manager for nearly five years. In addition to replacing me as the head of ADLV and ADP's e-mail support team, Jennifer quickly took over Carter's responsibilities in directing the rest of ADP. Veronica resented Jennifer's leadership and felt neglected by Carter, with whom she had always worked closely and whose friendship and affection she treasured. Veronica began to resist the new arrangement by slacking off and expressing more entitlement than gratitude to management. When ADSF began its search for her

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[60] Sadly, in her next job (also providing customer support as a member of a distributed team for a tech company), Carol would report working 12-hour days with no overtime pay, and this time with no benefits.

replacement as ADP's leader, Veronica became consumed by her fear that that soon she would no longer have a place in the company.

After Bin was hired as ADP's executive general manager, Veronica was transitioned into a new role as "director of culture," in which she remained unhappy. Carter helped to ease Veronica out of the organization while saving face publicly by pushing her to pursue her dream of earning an MBA abroad and getting the company to pay for it.[61] Both of the women who had built the remote teams without professional training and had cultivated their sentiment-laden organizational cultures had been replaced. "AllDone was my life for four and a half years," Veronica told me. "I gave everything else up." Carol and Veronica felt abandoned and betrayed by a company for which they had made tremendous sacrifices. They had believed the company's rhetoric about love and family, but discovered that AllDone was in fact a business first and foremost.

Conclusion

AllDone's successful transition to a new payment model spurred renewed interest from investors, culminating in a Series B funding round. The company began to combine its prior strategic imperatives as it sought to grow the company and its user base while also continuing to generate a sustainable revenue stream. The pace of innovation at AllDone quickened, and computational and emotional labor remained essential supplements to AllDone's software systems. Rather than envisioning its complementary workforce as a temporary necessity en route to full automation, ADSF's leaders had learned that accomplishing projects with combinations of technology and human helpers could be quicker, cheaper, and easier than using workers or algorithms alone.

The Series B round presented executives with the imperative to reformat the structure of the organization to meet funders' expectations for how the company should prepare for the next stage of growth. Across all three of AllDone's teams, new leaders were installed to rationalize and professionalize operations. Many employees found that old ways of getting work done and of relating to colleagues and the company were being replaced by more impersonal and hierarchical systems. Developments in the remote teams in particular made employment relations feel more like exploitative wage labor and less like "family." Many of those who had previously believed that working for AllDone was "more than a job" found themselves disenchanted or unemployed.

As a high-growth tech startup, AllDone's success was predicated on the organization's capacity to capture the imagination of users, employees, and investors. The company held the promise of transforming the lives of those who believed in its potential, and many of those who were involved with AllDone projected their dreams onto the organization. AllDone inflated stakeholders' expectations in its pursuit of venture capital, leaving some users and employees vulnerable and disenchanted when corporate strategies changed. As the firm transitioned from "permanently beta" to a more stable and bureaucratic enterprise, the employees who remained reckoned with the feeling that they had in some way lost ownership over their work and workplace culture.

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[61] In public speeches, Carter would later use Veronica's story as an example of how AllDone helped make workers' dreams come true, excluding the fact that she had been forced out of her role as general manager.

Conclusion

Software algorithms are components of the broader socio-technical systems that underlie our digital world (Gillespie 2016). At AllDone, software innovations were built atop a human infrastructure consisting of multiple sites that were organized differently. The combined and uneven development of software and human labor at AllDone demonstrates that our understanding of the future of work will be incomplete insofar as we fail to examine the organizations in which software algorithms are developed and implemented. The case of AllDone thus suggests that analyses of the future of work should be global in scope, inclusive of both the dynamics of organizations and the interdependence of variegated human and technological systems. In the following sections, I discuss the implications of this project for research on technology and the future of work, inequality in the "permanently beta" organization, the platform economy, and organizing computational labor.

Technology and the Future of Work

While some argue that the rise of software automation threatens workers with obsolescence, others assert that new complementarities between humans and software systems are likely to emerge. This study of a software firm operating on the frontiers of the digital economy offers a longitudinal account of the processes through which computer code and human labor co-evolved within a particular organizational context. During Phase I, when AllDone prioritized expansion with little regard for profitability, the pace of product innovation often outstripped the capabilities of technology and the company's resources. The firm relied on computational labor to grow its user base: workers were called upon because their tacit knowledge gave them a comparative advantage over software in performing non-routine work; they executed routine algorithms by hand in a process I call reverse substitution; and they enacted workarounds designed to "game" software systems. In Phase II, the strategic pivot to revenue generation made it increasingly important for the company to help users adjust to its software systems. AllDone used emotional labor to build users' trust in its service, to reactively repair damaged ties with users, and to proactively preserve users' trust in the face of changes to market rules. During Phase III, machine lag and human lag were systematically reproduced by AllDone's simultaneous prioritization of expansion and revenue generation. Demand for complementary labor increased, and the intertwining of technology and work remained a durable aspect of organizational development amidst accelerating automation.

By closely examining an organization where software algorithms were produced and implemented, this study makes both empirical and theoretical contributions to research on how software automation is transforming work and employment. Continuity theories reject technological determinism and instead anticipate that digital technologies will spur new human-machine complementarities. Empirically, I have detailed two ways in which human workers can complement software systems: by providing computational labor that supports or stands in for software algorithms, and emotional labor aimed at helping users adapt to software systems. As an increasing proportion of economic exchange becomes technologically mediated, demand for workers who supplement software infrastructure is likely to increase. Human brokers, support agents, consultants, and salespeople whose skills in advising and persuading clients are difficult

to automate may play an important role in smoothing the misunderstandings and frustrations that can arise when humans interact with software systems (Bessen 2015a).

Theoretically, I have identified one mechanism that generates the systematic reproduction of the machine lag and human lag that give rise to shifting configurations of workers and machines: the internal dynamics of organizations. Organizations are generally dynamic insofar as they are constantly competing for scarce resources—including customers and capital—and even because of the ingenuity of their customers, who may devise creative ways to avoid paying fees. The organizational contexts in which sociotechnical systems are embedded matter for how human-machine configurations emerge, endure, and change. The specific articulations of AllDone's work teams changed as the company adapted its goals to meet venture capitalists' expectations. At each stage of AllDone's development, software alone was unable to resolve all of the problems that the firm faced as it grew; indeed, the application of technology itself often caused new problems that created new demand for human workers capable of performing complementary tasks. Instead of perfecting software algorithms that would progressively push people out of the production process, managers continually reconfigured assemblages of software and human helpers, developing new forms of organization with a dynamic relation to technology.[62]

Formulated as a refutation of discontinuity, continuity theory fails to grasp these organizational dynamics of continuity: the *discontinuity in continuity*. Contemporary inquiries into the relationship between software automation and work have largely investigated macro-level phenomena such as labor markets, job categories, and general work tasks. This study reveals processes through which, at the level of the firm, complementary labor is continually incorporated into and displaced from software systems. At AllDone, full automation of every task was impractical given the instability of the firm's environment and product. Software engineers' innovations often required the assistance of complementary workers. When particular complementary tasks were automated, outdated labor processes were typically replaced by new functions that supported new innovations. As continuity theorists predict, human labor remained integral to the operation as software automation increased at AllDone; however, the texture of continuity was itself dynamic and discontinuous, the result of repeated transformations in human-machine configurations. The very fact of continual change in markets and firms in an age of so-called "disruption" is what makes the continual application and reconfiguration of complementary labor vital to organizational success, whether workers are helping a firm experiment with new processes to grow faster, managing users' emotional responses to rapid change, or doing what software alone cannot accomplish. The dynamism of firms is thus likely to be a source of human labor's enduring relevance in the digital age.

In linking the phases of capital accumulation to organizational form within a new venture, this study also suggests that the rate of organizational change will be an important determinant of the outcomes of human-software configurations. This study was based on observations of variation within one organization over time. Researchers may discover additional human-machine complementarities, and develop further insights into their dynamics, by drawing comparisons between organizations. The use of online, distributed workers to complement computer code extends far beyond software startups: large and well-established organizations in both the high-tech field (Google, LinkedIn, Netflix, AOL) and in more "traditional" sectors

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[62] Combining insights from the sociology of work and organizations with economic sociology's concerns with market brokerage and emotions in economic exchange can shed new light on the processes through which digital platform providers create and maintain new sources of value.

(Unilever, Walmart, Coca-Cola, Proctor & Gamble, U.S. Army) frequently call upon them as well (Bergvall-Kåreborn and Howcroft 2014; Kingsley et al. 2015). Nascent firms relying on "opportunistic adaptation" (Bhidé 2000) to secure scarce resources in unsettled markets may be more likely to experiment with using low-cost and abundant workers to complement software infrastructure than established firms operating in more stable markets, which are likely to experience a lower rate of strategic "breakpoints" (Barley 1986). In larger firms, human-software configurations are likely to change more slowly than at startups like AllDone. This stability could correspond to a higher rate of automation and substitution. In short, the outcomes of technological innovation are unlikely to be monolithic, but will instead be dependent upon the context in which software development is applied and the rate at which that context changes.

Inequality in the "Permanently Beta" Organization

AllDone's drive to attract successive rounds of venture capital funding—and to ultimately produce a massively profitable "exit" for shareholders—shaped not only the relationship between work and technology within the firm, but also the texture of workers' everyday experiences on the job. The pressures of the venture capital cycle had different consequences for workers according to their position within the organization. Privileged employees in the San Francisco office orchestrated organizational dynamism to ignite the company's growth. The office's culture of speculative optimism was fueled by data-driven experimentation that held the promise of delivering life-altering returns to employees. AllDone's distributed Filipino workforce provided a measure of stability that enabled the innovations emerging from the San Francisco office. Filipino workers were relatively insulated from organizational flux, and the consistency of their role was reflected in a culture of familial love that drew on longstanding patterns of patron-clientelism. Workers in Las Vegas bore the burdens of organizational change. AllDone's phone support agents struggled to keep up with both a rapidly changing product and restive customers while struggling to make ends meet, resulting in a culture of frustration.

If there was variation in how AllDone's two remote teams experienced organizational flux, their roles also shared important similarities. As San Francisco-based developers improvised in pursuit of profit, workers in the Philippines and Las Vegas enabled capital accumulation by smoothing out the inconsistencies in software systems and cleaning up their emotional fallout. The firm's ability to seize opportunities in a fast-changing environment depended on the displacement of these pressures onto workers. These dynamics are not unique to Silicon Valley startups—workers in professions as diverse as finance and long-haul trucking have experienced the intensification of work as firms attempt to beat competitors to recognizing and taking advantage of opportunities in an accelerating economy (Snyder 2016).

The case of AllDone is also reflective of broader developments in the American labor market. AllDone stands as a microcosm of longstanding economic trends in which automation, globalization, de-unionization, and financialization have contributed to the "hollowing out" of the occupational spectrum in the U.S. (Autor 2015b). AllDone's algorithmic systems created demand for workers on both ends of the occupational spectrum. A privileged group of employees located in a wealthy U.S. metropolis took on roles in which the value of their skills was greatly enhanced by information technologies. The workers who supported innovation were located in the national and global periphery. Their roles required more widely held skill sets, their

compensation was relatively low, and only a handful of managers stood to capture any of the "upside" that accrued to financiers and stockholders with each successive round of investment. Those who reaped the majority of rewards were white, male Americans, while the contributions of women and non-white workers in the national and global periphery were relatively devalued. The case of AllDone thus also underscores how the rise of digital labor holds the promise of extending economic opportunity by allowing workers to overcome geographic barriers. At the same time, however, by facilitating the movement of jobs to sources of cheap labor, digital technologies reproduce and sometimes amplify power imbalances within capitalism, rather than transcending them (Graham et al. 2017).

Additionally, AllDone employees situated across the firm confronted organizational conditions that are distinctive to Silicon Valley. Organizational flux was, at different times, at the root of both inflated expectations and disillusionment for employees across the organization—as well as its users and investors. Venture-backed high-tech startups generate imaginaries alongside the products they produce. The organization of workers' interests and capacities was imbricated in these imaginaries and in the relations between them. Managers in San Francisco envisioned their venture as a vehicle for making profits and making the world a better place. Workers in the Philippines bolstered this interpretation in their interactions with management, and in so doing helped to secure their own livelihoods. Las Vegas-based employees found their dream of a better life challenged by leaders who they perceived as neglectful and unappreciative. The hopes of employees across all three teams were subject to disruption as the firm altered its business model, employment relations, labor processes, market rules, and user interfaces.

The Platform Economy

Observers have argued that "platforms," or "multisided digital frameworks that shape the terms on which participants interact with each other," are reorganizing our politics, economic activity, and social interactions (Kenney and Zysman 2016:61). Few, however, have turned their attention to the internal organization of platforms themselves (cf. Kelkar 2018). The case of AllDone reveals one way in which the internal dynamics of platform firms are shaped by their temporal trajectory and the institutional ecologies within which they operate (Schor and Attwood-Charles 2017). At AllDone, the venture capital environment was a crucial determinant of the activities of decision-makers. Platform companies occupying different stages of the venture capital cycle are likely to pursue different strategies, resulting in systematically different outcomes for employees and users.

One matter that is not the primary focus of this study, but that remains worthy of attention, is how organizations like AllDone shape the lives of and inform the future of work for yet another set of workers—the platform's sellers.[63] We know little about how, for example, the market for wedding photographers in a particular metropolitan region might be affected by the emergence of a platform like AllDone. My communications with AllDone sellers suggest that AllDone eases the entry of new players into local service markets, jeopardizing the position of existing incumbents and driving down the average cost of services. At the same time, new incumbents may emerge, with younger and more tech-savvy players—and, potentially, more women and people of color—taking advantage of the benefits that accrue to those who secure the

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[63] See Ho (2009) for a similar perspective on how the activities of Wall Street investment bankers shape the experiences of workers across the economy.

most positive online reviews for their services. These dynamics are worthy of systematic investigation.

This study also raises questions about the economic sustainability of many of the digital platforms that have challenged longstanding business models across a variety of industries (Srnicek 2017). Amazon and eBay—arguably the two most successful digital marketplaces to emerge from the dot-com bubble of the 1990s—are profitable enterprises, though much of their revenue has been generated through from their diversification into other product lines. In the first quarter of 2018, 73 percent of Amazon's operating income was derived not from its marketplace business, but instead from its cloud-computing product, Amazon Web Services (Kim 2018). In 2015, nearly half of eBay's revenue came from PayPal, the payments processing service the company acquired in 2002 (Kumar and Goliya 2015).[64] Uber—often held up by observers as a model for how digital platforms are transforming work and employment (Davis 2016; Scholz 2017)—reported operating losses totaling $4.5 billion in 2017, and venture capitalists have in recent years subsidized each passenger ride by an average of 60 percent (Smith 2016, 2018). It remains unclear when and how the company will transition to a profitable business model, particularly given that the firm faces mounting threats including regulatory crackdowns and drivers' demands for workers' rights and higher wages.

Although platform companies tout how they use technology to reduce the friction in economic exchange and "scale" at virtually zero marginal cost per user, the reality is that these platforms require a great deal of labor to function—more than many technology companies would care to admit to their investors or the to the public (Irani 2015b). Platform firms incur a wide range of costs as they develop fast-changing products to keep up with competitors, regulators, and demands from employees and users. Profitable tech giants like Facebook and Google have built massive businesses as purveyors of advertising. The extent to which "gig economy" platforms like Uber and AllDone will reshape the future of work for their users will depend in part upon whether they can develop business models independent of the institutional ecology of the second dot-com venture capital bubble.

Organizing and Regulating Complementary Labor

This project also has implications for organizational and regulatory design. The dominant model for sourcing and managing computational labor is Amazon's Mechanical Turk (AMT) platform. Many observers have raised concerns about the potentially exploitative or dehumanizing nature of the platform, which allows software engineers to plug crowds of temporary, anonymous workers into computational infrastructure to complete routine, information-processing tasks (Kittur et al. 2013; Bergvall-Kåreborn and Howcroft 2014; Martin et al. 2014; Irani 2015a). Critics have pointed out how the design of the platform atomizes and disempowers workers, enabling employers to pay sub-minimum wages and engage in wage theft while leaving workers feeling frustrated and devalued.

AllDone's Filipino workforce completed the same types of tasks as workers sourced through AMT, and received similar pay, but their relationship with the organization was structured much differently (Figure 1). AllDone sourced its computational workforce through an online freelancing platform now known as Upwork, and the company built enduring, long-term ties with complementary workers by situating them within a traditional organizational hierarchy.

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[64] PayPal was spun off into a separate, publicly traded company later in 2015.

	Amazon Mechanical Turk	**AllDone**
Nature of Tasks	Routine information processing	Routine information processing
Median Earnings	$2/hour	$2/hour
Employment Relations	Brief and arms-length	Enduring and close ties
Management	Algorithmic	Direct
Job Security	Low	High
Organizational Identity	Identify with platform	Identify with firm

Figure 1: Comparison of Computational Labor Performed on Amazon Mechanical Turk and at AllDone

This arrangement had advantages for both the firm and its workers. AllDone reaped the benefits of a trustworthy and reliable workforce, which allowed the company to displace core organizational processes from software engineers onto distributed workers; to speed up experimentation with new features; to ensure the quality of the work product; and to easily move workers from task to task as organizational needs changed. Workers, for their part, received good pay relative to local labor markets, stable jobs, and a symbolic terrain that emphasized the mutual commitment between employees and the company.

Here I am not arguing that this type of arrangement was in some sense utopian, nor that it would necessarily be the best solution for every organization that currently uses AMT. However, it is important to note that it is possible for firms to develop creative and mutually beneficial ways of organizing computational labor that support organizational goals while simultaneously doing more to preserve the dignity of workers.

This project also suggests that policymakers should bring empirical evidence to bear on widely held assumptions about the nature of artificial intelligence. Rather than completely *replacing* workers, in many settings advances in computerization *displace* workers into new tasks in and around new technologies. The policy debate about job loss from software automation often obscures more pressing issues. Because computational infrastructure is now located in the "cloud," the complementary workers enrolled into AI systems are often sourced through online platforms, rendering them invisible to the users of software and the governments that regulate labor markets. Rather than assuming that AI eliminates work, regulators should require employers to report their engagements with online contractors to get a more accurate picture of the precarious labor that is emerging to support software systems. Legislators should also devise policies designed to support the essential—but often invisible—algorithmic workers of the future. For example, officials could prevent the digital platforms that connect companies with contractors from bypassing minimum-wage and anti-discrimination legislation.

A Path Forward

In recent years, an interdisciplinary field of critical data studies has emerged to counter technologists' claims that software algorithms will soon transcend the limitations of human cognition and judgment (boyd and Crawford 2012). This study shows that the sociology of work and organizations have much to offer this line of inquiry. Examining algorithms not simply as technological artifacts, but rather as they are put into practice in the social world, will give

analysts new insights into the capabilities, limitations, and consequences of algorithmic decision-making in organizational settings (Levy 2015; Christin 2017).

Sociologists and organization scholars have devoted surprisingly little attention to the ways in which software automation is transforming work and employment. This is particularly unfortunate because their diverse methodological approaches make them uniquely suited to contribute to the debate by examining the processes through which work and technology are co-evolving within dynamic organizational contexts. Instead of accepting discontinuity theorists' vision of a linear march toward autonomous machines that replace humans, researchers must continue to view technological innovations with the following questions in mind: "Where are the people? Which people are they? What are they doing? When are they doing it?" (Mindell 2015:13). When scholars examining the future of work and employment focus their inquiries only on how technology substitutes for workers, they are likely to miss ever-more intimate interconnections between people and technology. The shape of this interplay—and our ability to render it visible—may be among the defining issues for scholars of work and employment in the 21st century.

Methodological Appendix

Analytic Strategy

My research activities integrated online and offline data-gathering, as the "field" stretched across both "real" and "virtual" sites and required me to attend to the associations between them (Sade-Beck 2004). I recorded extensive jottings (Emerson, Fretz, and Shaw 2011) while I was in the field, usually on a work computer as events were occurring, sometimes on a mobile phone, and occasionally in a small notebook.[65] On my subway ride home each night I began to turn jottings into full fieldnotes; I then re-read the fieldnotes and wrote analytic commentary on the day's events. This process typically took one to two hours or longer. Reviewing and analyzing each day's fieldnotes helped me identify emergent patterns in the data, link data to concepts and themes, integrate insights, and formulate questions to investigate in subsequent fieldwork. I also coded select documents in ATLAS.ti and wrote analytic memos in which I linked concepts emerging from my analytic commentaries to broader sociological themes. Systematically engaging in such mental activities allows researchers who are personally involved in their field sites to sustain a "professional distance" essential to generating insights from data (Anteby 2013). After leaving the field as a full-time employee, I continued to gather data by conducting informal interviews with informants across the organization and examining public sources.

Getting In

Before entering graduate school, had I worked for three years as a managing editor at a tech startup in New York City. There, I observed the importance of projecting confidence in an industry in which it can be difficult to assess the potential of new ventures—or, for that matter, new hires. Rather than portraying myself as a naïve student—a strategy employed by many fieldworkers to secure access and elicit information from informants (Morrill 1995; Lofland et al. 2005)—I felt that my best means of gaining entry to a fast-growing startup would be to convince members of the organization that I was already equipped to help AllDone achieve its business goals as I simultaneously pursued my research goals. Fieldnotes from my first visit to the office detail my awareness that "I'm trying to engage [with staffers] as a potential employee." I asked questions that signaled my understanding of the challenges the firm faced (e.g. "Who do you see as your primary competitors?") and I drew comparisons between AllDone and the startup I had previously worked for. Although I was upfront that my primary interest was in conducting research at AllDone, I sought to avoid the perception that I was simply an academic interloper with little to offer to the company. This strategy seemed to be effective—by the end of my first meeting with Martin, he expressed some concern that I might find the projects he'd ask me to work on uninteresting, so I reminded him that he could feel free to assign me anything I could help with, because my personal goals were academic in nature.

As I began my internship, I was surprised to find that AllDone executives quickly made me feel welcome, valued, and appreciated. I had been expecting to be viewed with some overt

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[65] Spoken dialogue that appears in double-quotes was inscribed in situ. Dialogue in single-quotes was inscribed shortly after it occurred, reconstructed to the best of my ability.

suspicion because of my dual role as a researcher, and I worried that it was taking me too long to get up to speed on the administrative systems that Martin had asked me to work with. Instead, it seemed like every time I was in the office, Martin, Carter, or Peter would tell me how happy they were to have me there and would offer praise as I executed small tasks and progressed through larger projects. The friend who had connected me with AllDone soon told me that members of management had raved about me to her as well. After just five workdays, Martin asked me if I could double my hours, which would entail being moved onto payroll as a part-time contractor. Soon after I took on that role, Martin and Carter seemed receptive to my suggestion that I join them on their upcoming trip to the Philippines. I was pleased, but puzzled—why were they so happy to have me along for the ride?

One reason why managers may have so eagerly accepted me is that my presence allowed them to delegate undesirable but consequential tasks to a trusted subordinate. The first project that Martin assigned to me was to build out the company's database of "request questions," or the questions that buyers were asked to answer when submitting a work request. Buyers' answers to these questions helped sellers understand the parameters of the job and submit an accurate quote to the buyer. For example, a buyer searching for a house cleaner might be asked about the size of the house and the thoroughness of the cleaning job. When I arrived at AllDone, 60% of service categories had not yet been assigned request questions. Data revealed that being shown request questions made buyers more likely to submit a quote; adding request questions to the remaining hundreds of service categories would likely double the number of "conversions," or buyer visits resulting in submitted requests. The subsequent increase in quotes from sellers could net AllDone an estimated additional $10,000 per month, a number that would grow as AllDone's user base increased. Martin, Carter, and Josh had previously spearheaded this project months earlier, abandoning it less than halfway to its completion. It is telling that a project that they anticipated could generate significant additional revenue had not been revived sooner—they clearly viewed this task as tedious and time-consuming. Aside from the new office manager, I had become the only entry-level worker on the ADSF staff, making me a resource for managers who wanted to offload undesirable projects.

My work performance and attitude on the job also helped to solidify my relationship with ADSF managers. Like many employees in the tech sector, I purposefully cultivated an image and identity as a "go-to guy" (Cooper 2000), a reliable team player willing to "take ownership" of whatever projects I was assigned. Some of the activities I undertook early on to establish my legitimacy as a dependable, self-directed team member included: independently formulating, proposing, and executing small projects; sending Martin an unsolicited e-mail at the end of every workday summarizing my progress in relation to the company's short- and long-term goals; staying at the office until the last person was leaving (which I also felt was important for my research); responding to praise with modesty, or redirecting credit toward colleagues; and embracing "boring" but necessary work. I was initially skeptical of my own competence because I often felt overwhelmed with new information, and it could take some time for me to pick up on how AllDone's systems worked. But I now recognize that some of my difficulties can be attributed to the fact that I received very little training—Martin typically left me to figure things out myself and ask questions when I was confused. The fact that I was able to succeed in this arrangement built managers' trust that I could execute projects without being micromanaged. In all likelihood, the fact that I was a researcher as well as an employee improved my work performance—after work, I deliberately reviewed and reflected upon the day's activities as I

turned jottings into fieldnotes and analytic commentary, and I spent many of my non-work hours thinking about the company.

Another reason AllDone executives may have accepted a researcher in their midst is that they didn't feel they had much to hide from the outside world. During my first meeting with Martin, I was surprised by how quickly he laid out the intricacies of AllDone's processes for recruiting new users, its administrative systems, and the various duties of the Filipino workforce. When I expressed my surprise, Martin explained that "we're pretty open here," reflecting an ethos of openness that I would later learn was common among Silicon Valley startups (Saxenian 1994; also see Turco 2016 on openness at a tech startup). Whereas I had initially assumed that AllDone would be reluctant to share details about how the company offshored work to the Philippines, I discovered that AllDone's co-founders publicly touted their remote teams as demonstrations of their resourcefulness and of the positive impact that their venture was making around the globe.

My personal identity also played an important role in my acceptance and advancement at AllDone. In a very real sense, I "belonged" at AllDone because I was young (28 when I joined the company, matching the average age of ADSF employees), white, male, held a bachelor's degree from a highly selective college, and had previously worked as a manager at a tech startup. AllDone's executives valued prestigious academic and career credentials (for example, Ivy league degrees or prior stints at top consulting firms or major tech companies), touting them in presentations to board members or potential investors. I quickly made my way into their presentations as the employee who dropped out of a Ph.D. program at Berkeley to join AllDone (even though I had told them that I planned to return to graduate school). Additionally, I did not have family care obligations that would curtail my "face time" in the office. Though many of my colleagues came from wealthier backgrounds than I did, I seemed to possess the ambiguous quality of "culture fit" that managers later told me they sought in new employees (Rivera 2012).

Although colleagues were informed of, and periodically made reference to, my identity as a sociologist and researcher, by all appearances I was treated like any other member of the team, particularly after I had taken on a full-time role with the company.[66] I developed close working relationships and friendships with members of all three work teams. While on occasion my conversations with colleagues were openly linked to my sociological interests, in general I avoided drawing attention to my status as a researcher, in part because I was concerned that doing so would limit my access and distance me from colleagues, and in part because I worried that my research activities would be viewed as a distraction from a demanding job. I frequently took advantage of more discreet methods of inquiry, including "interviewing by comment" (Snow, Zurcher, and Sjoberg 1982), to seek member meanings and clarifications of organizational practices, and to place theory into dialogue with data.

Doing Ethnography as a Boss: Positionality, Power, and Privilege

I entered the field eager to "study up," in part because conducting fieldwork in AllDone's San Francisco office would, I imagined, free me from the responsibility of representing the experiences of people with less privilege and power than I possessed. However, I quickly

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[66] Prior to my first day in the office, I received a company e-mail address and was added to the intra-office e-mail list, chat program, and social network. Even in the early days of my internship, I was included in all-office meetings and social events.

discovered that where there is privilege, it exists in relation to domination. Indeed, I would soon be thrust into a role that I never could have foreseen: that of a boss. Within months of entering the field, I found myself responsible for overseeing AllDone's customer support teams in the Philippines and Las Vegas, as well as serving as the San Francisco team's outsourcer-in-chief, responsible for assigning ad-hoc projects to the remote teams and explaining new features to remote team members in weekly product update e-mails.

Chief among the methodological issues raised by my position as a manager at AllDone is that of "reactivity," or the likelihood that, through my involvement in my field site, I was influencing or even to some extent creating the behaviors, processes, and phenomena that I observed. Following the "extended case method" approach to ethnographic research, rather than attempting to minimize reactivity by observing AllDone from the position of an outsider, I used my position inside the organization to learn and reflect upon how people and structures reacted to my presence and activities (Burawoy 1998). The depth of my involvement in AllDone's operations allowed me to generate theoretical insights that would have been well beyond my reach had I chosen to minimize my participation (Anteby 2013). My aim was not to produce knowledge that would be statistically representative of, and thus generalizable to, a population of startup firms. Instead, I bring novel ethnographic observations to bear on prior theoretical premises, using anomalous data to reconstruct existing theory by further elaborating social processes or the conditions under which particular phenomena may occur (Burawoy 1998).

Still, aware of how my presence could affect the behaviors of those around me, I took a variety of practical measures to self-consciously structure my activities in the field in ways that would minimize my influence over my primary objects of analysis: namely, the character and dynamism of work, technology, and organizational cultures at AllDone. I had taken over my duties from Martin and Carter, two of AllDone's co-founders. Given that I had no prior experience in customer support or in managing distributed work teams, it was easy for me to either continue the policies of my predecessors or to simply hew closely to their agenda and instructions when planning and executing projects. Indeed, my responsibilities as a middle manager typically involved implementing plans devised by others. Additionally, because I was a manager, I ran the risk that, in conversations with subordinates, they would think it best to parrot my interpretations of events rather than sharing their own. To mediate this risk, I aimed to solicit colleagues' sense of any given situation and what actions it called for before I offered my own opinions. My efforts to faithfully execute the instructions of my superiors and to better understand the thinking of my subordinates not only supported my research activities, but, I am convinced, were entirely consistent with best practices in fulfilling my role as a middle manager.

In taking on the tasks that others eschewed, I found myself at the center of the contradictions that animated organizational activity. The duties that my supervisors handed off to me were among those that they least enjoyed handling, either because they were monotonous or unpleasant. As director of customer support, I gained firsthand experience in the emotionally taxing work of trying to appease unhappy users. As operations manager, I served as an organizational broker, meticulously formulating instructions and transmitting and translating information between AllDone's disparate work teams. As a member of AllDone San Francisco who, as a full-time employee, received a small stock option grant, I dwelled in the gap between rhetoric and reality alongside my colleagues, confronting and helping to manage the limitations of AllDone's technological systems and the excitements and disappointments of users and employees.

Although my position as a manager and broker between AllDone's teams allowed me to see and experience a broader range of activities than did arguably any of my colleagues, it also limited my access to particular phenomena. Most notably, I was largely unable to observe the "backstage" of organizational life—what workers expressed to each other when management was not watching or listening—among the Filipino and Las Vegas-based workforces.[67] For this reason, my analyses of these teams' organizational cultures focus on the "frontstage" performances to which I was privy as a manager.

As a participant-observer, I was often faced with the challenge of balancing my roles as an employee and as a researcher. Throughout my time in the field, I engaged in research activities—in particular, discreetly recording fieldnotes and eliciting information via "interviewing by comment" (Snow et al. 1982)—in a manner that I believed did not conflict with my member role. For instance, both Veronica and Carol (the leaders of ADP and ADLV, respectively) at times suggested that they could, if I wished, insulate me from personnel issues that arose on their teams. I repeatedly insisted that I was always available to discuss difficult matters such as these. This was consistent with both my interests as a researcher and a manager.

Occasionally, however, I became aware of opportunities to engage in research activities that seemed incongruent with my role in the organization. As a general rule, I avoided taking actions for the benefit of my research that seemed overtly inconsistent with what I thought a non-researcher in my position would do. One such instance arose when Carol was struggling to decide whether or not to fire Tanya (an episode described briefly in Chapter 4). As her relationship with Carol was rapidly deteriorating, Tanya e-mailed me and asked if she and I could speak "in confidence" about the situation so that I could "listen to both sides" of the story, instead of only hearing Carol's perspective. I recognized that, as a researcher, I could take advantage of this situation to get more direct access to the experiences of one of AllDone's phone support agents. I wanted to learn more about how she viewed her job, her compensation, and the company. However, I worried that getting involved in the situation would reduce the esteem in which Carter held me, because he was likely to view direct interventions in the remote teams' personnel decisions as a waste of my time and beneath my purview. (I had noticed that even when Veronica and one of her deputy managers were feuding for over a year, Carter did not directly speak with the deputy about it, but rather encouraged Veronica to take particular actions to remedy the situation.) I was also wary of taking actions as a researcher that might make Carol's work more difficult. It seemed important that Carol remain in charge of personnel decisions—her authority as a leader depended upon her ability to make these kinds of judgments; if her leadership were called into question, more and more members of AllDone Las Vegas would go over her head, directly to me. I shared Tanya's message with Carol, but I decided to forego the opportunity to speak with her because it seemed incongruent with my organizational role.[68]

This is not to say that the conflicts between my identities as participant and observer did not bother me. I faced a variety of ethical dilemmas as a fieldworker who had unexpectedly stumbled into a position of power within an organization. I was uncomfortable with some aspects

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[67] After I left the company, however, some former colleagues shared their opinions with me more openly (see Chapter 5).

[68] I faced a similar dilemma when Tanya had invited me to join the team's online chat system months earlier. I told Tanya that I would be happy to join the group, but then Carol advised me not to, suggesting that 'they just want to complain directly to you and go around me.' In light of Carol's warning, this was another opportunity to connect with employees that I decided to forego.

of AllDone's employment relations, and I tried to use my position to remediate sources of stress experienced by members of the remote teams. For example, I worked with the product team in San Francisco to ensure that employees received notice of product changes before they were implemented so that they didn't first learn of these changes from angry customers. I also advocated (unsuccessfully) for team members to be spared the difficult coin transition calls (see Chapter 4) and for them to receive a wage increase (see Chapter 5). Ultimately, however, by retaining my position of power, I was in some ways complicit in team members' suffering. After Carol called me to tell me she'd decided to fire Tanya, I wrote the following reflection:

> I collect my thoughts and head back to my desk feeling thoroughly drained, like I just got the wind knocked out of me. As I get back to work, I find that I can't really focus on anything. I feel bad for Tanya. I have no doubt that she really did need this job. I feel partially responsible for this very real and clearly troubled person losing her source of income, and I know that, as a contractor, she won't be eligible for unemployment benefits. I also feel bad for Carol. I know how much she cares about her people—about people in general, really. She'll take this very hard, and will undoubtedly wonder for a long time whether there's something she could have done to prevent this outcome.

What would it have meant for me to be accountable not only to AllDone, but also to Tanya? Should I have transcended the implicit boundaries of my role to see if I could do more to help her? Or would additional intervention on my part have had unintended, and ultimately negative, consequences? Even though my structural position in the firm insulated me from the burden of participating in personnel decisions, Carol frequently looked to me for advice, leaving me with some measure of input into the maintenance or disruption of people's livelihoods.

As a 28-year-old managing a team of mostly middle-aged women, I felt ashamed that my position of power over AllDone Las Vegas employees reflected my privilege more than my abilities. I sometimes caught myself reflexively downplaying displays of inequality in an effort to minimize team members' perceptions of difference, and in so doing, to alleviate my own discomfort. For instance, I edited onboarding documents that told the story of AllDone's relatively privileged founders to make them sound less tone-deaf, and I downplayed the perks available to workers in San Francisco when members of the Las Vegas team brought them up. I noted how my reflexive response to the discomfort caused by inequality may have helped to perpetuate it by invisibilizing class difference.

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