

A R T I C L E S

Contracting: A New Form of Professional Practice

Stephen R. Barley and Gideon Kunda*

Executive Overview

Contract work and outsourcing represent widely acknowledged manifestations of the groundswell of economic change that is shaking the foundations of work and employment in the United States. While these emerging forms of employment have become harbingers of new ways of working, they remain poorly understood; efforts to explain their emergence and significance have suffered from an excess of ideology and a dearth of data. Stephen Barley and Gideon Kunda undertook an ethnography of technical contractors to produce a detailed, balanced, and accurate depiction of how contractors structure and interpret their experience. Their study documents the social dynamics of skilled “contingent labor,” a term economists and sociologists now use for an array of short-term work arrangements. Their goal was to understand how employment relations were changing at the dawn of the 21st century.

Closely studying contractors’ everyday lives provided a strategic vantage point for viewing, evaluating, and perhaps even shaping changes taking place in the U.S. and global economies. As they set out to explore the world of technical contracting, Barley and Kunda were confronted with an unexpected profile of contractors: these were itinerant experts and social pioneers who partook of a way of life and a culture of work that challenges the prevailing theories and entrenched practices of employment. After an account of the exigencies of technical contracting, Barley and Kunda discuss contingent work within the context of the American industrial landscape and in light of institutionalist and free market perspectives. They also discuss contingent labor as it relates to the way in which professions and occupations are organized. Specifically, they argue that contracting directs our attention to a resurgence of occupational organizing in the wake of bureaucracy’s retreat and the free market’s advance. They suggest what a renewed appreciation for occupational dynamics could mean for individuals, firms and public policy.

Introduction

In late 1997, we set out as ethnographers to examine the world of technical contracting from the inside. Our objective was to document the social dynamics of skilled “contingent labor,” a term economists and sociologists now use for an array of short-term employment arrangements including part-time work, temporary employment, contracting, outsourcing, and home-based work. Our hope was to understand how employment relations were changing at the dawn of the 21st century by producing a detailed, balanced, and accurate depiction of how contractors structured

and interpreted their experience and how the lives they led were different from the ones they left behind. Over the course of the study we journeyed into the everyday lives of technical workers who had chosen to live beyond the boundary of traditional employment. These men and women had rejected the familiar pains and comforts of organizational life for the freedom and accompanying risks of the marketplace. What we did not expect to find was a group of social pioneers who partook of a way of life, a culture of work, that challenged the prevailing theories and reputed practices of contingent employment.

* **Steven R. Barley** is Charles Pigott Professor of Management Science and Engineering and Co-Director of the Center for Work, Technology and Organization at Stanford University's School of Engineering. Contact: sbarley@leyland.stanford.edu.
Gideon Kunda is an Associate Professor in the Department of Labor Studies at TelAviv University. Contact: Kunda@post.tau.ac.il.

Efforts to explain contracting's significance have suffered from an excess of ideology and a dearth of data. Although firms have long employed temporary workers for seasonal and short-term needs (for example, to staff retail stores at Christmas or to stand in for absent full-timers), during the late 1980s corporations began to view temporary labor as an extension of the broader strategy of outsourcing. Business strategists, such as Charles Handy (the author of *The Age of Paradox*), argued that flexibility was key to survival in a global economy and that the way to enhance flexibility was to surround the firm's core employees with a buffer of contingent workers who could be hired and fired at will.¹ Outsourcing labor made it easier for firms to shift their employment mix, because contracted services were easier to terminate on short notice. Moreover, hiring contingent workers relieved managers of some of their more difficult tasks, such as worrying about thorny "people issues" or catering to the motivations and emotions of employees. Business leaders were apparently convinced.

The Context: Free Agents vs. Institutions

In the early 1990s, contingent work began to attract the attention of sociologists, labor economists, and journalists. Most focused on the reasons why firms employed contingent workers and on the costs and benefits of doing so. Analysts who took the worker's perspective were fewer in number and fell into two opposing camps: The "institutionalists" and the advocates of "free agency."

The Institutional Perspective

The institutionalists were economists and sociologists who interpreted contingent work through a historical and social lens.² They told a cautionary tale. From an institutional perspective, contingent work's expansion threatened the security of the workforce and the American system of social welfare, which was based on full-time employment. The institutionalists framed the threat from the perspective of dual labor market theory, the notion that industrial economies are composed of two sectors: "primary" and "secondary."³

Primary labor markets provide stable employ-

ment, career ladders, job security, high wages, and attractive benefit plans. Secondary labor markets are, by comparison, less stable and offer lower wages. Classic examples of secondary labor markets include farm labor, food service, and hospitality work. Research has shown that participants in secondary markets are more likely to be members of minority groups and to work for employers who provide meager benefits. Because scholars saw secondary markets as peripheral, they had historically treated them as a social problem to be addressed using existing institutions (for example, minimum wage laws), rather than as a fundamental threat to the system of employment.

Institutionalists warned that the growth of contingent work represented the spread of secondary labor into the economy's core. Many feared that this development would undermine the well-being of American workers and their families.⁴ Others warned that contingent work's spread would increase demand for government assistance in a downturn and facilitate the oppression of minorities. Indeed, demographic studies at the time consistently indicated that most contingent workers made less money than full-time employees in the same occupation, that they were less likely to have access to health insurance and pension plans, and that in comparison to full-time workers, women, African-Americans and Hispanics comprised a larger percentage of the contingent workforce.⁵ Finally, some critics charged that the shift to contingent labor signaled an attempt to undermine unions.⁶ In short, institutionalists saw the spread of contingent labor as an unraveling of the New Deal, and they urged policy makers to shore up existing institutions or search for new ones that would enhance security.

The Free Agent Perspective

At the height of dot-com mania, "new economy" magazines like *Fast Company* and *Wired* began to lionize highly skilled contractors as "free agents," the heroes and heroines of post-industrialism. Most of free agency's advocates were (and continue to be) futurists, human resource consultants, and staffing industry experts who wrote for the general public.⁷ The "free agentees" agreed with the institutionalists on one point: Employment

security and its supporting institutions were unraveling and their demise represented a breach of faith. Corporations had reneged on their part of a culturally well-understood bargain. But, unlike the institutionalists, free agency's spokespersons sang contracting's praises while advocating a kind of libertarian, anti-corporate rebellion. Authors of this ilk portrayed corporate life as stifling and petty. The corporate world, they claimed, forced people to play "politics" and subject themselves to the whims of incompetent managers for inadequate pay. Besides, they added, "jobs" and "careers" were outmoded inventions of the industrial revolution, designed for the benefit of employers.

Faced with the demise of traditional employment and the willingness of firms to renege on their part of the bargain, advocates of free agency recommended that people turn the tables on companies by refusing to grant loyalty and by embracing the shift to a skills-for-hire economy. The trick, they proposed, was to use the demise of traditional employment as an opportunity to set oneself free. They encouraged people to view themselves as free agents, to develop and market their own skills to the highest bidder, and to view themselves as a business, even when in a full-time job. Free agentees, in short, promoted a post-industrial vision of economic individualism in which entrepreneurial workers would regain independence and recapture a portion of their surplus value.

The vehicle of the free agent's independence was the market. In *Job Shift*, William Bridges promised, "In a market...people don't have bosses... There are no orders, no translation of signals from on high, no one sorting out the work into parcels. In a market one has customers, and the relationship between a supplier and a customer is fundamentally non-organizational... One's boss is really a major customer rather than an authority in the old sense (pp. 64-65)."⁸ Of course, the irony that Bridges and others had trouble seeing was that freeing oneself from the chains of traditional employment meant catering to the same employers against whom one was rebelling, but now in the role of a vendor.

Thus, advocates of free agency sketched an optimistic picture of contingent labor that chal-

lenged the institutionalists point by point. Free agentees argued that contingency was a choice rather than a constraint; that it represented liberation rather than isolation; that it minimized uncertainty about employment while enhancing flexibility and personal control; that contractors made more money than permanent employees because they were paid at rates that reflected the real value of their skills; and that relying on one's skills led to self-actualization rather than estrangement.

Whom to Believe?

But because neither the institutionalists nor the free agentees had systematically examined the lives of technical contractors, it was difficult to tell which offered a more viable image of contracting. With the exception of the ethnographers of temporary work and Daniel Pink's book, *Free Agent Nation*, analysts on both sides of the debate had given no voice to contingent workers themselves. Most advocates of free agency based their claims, at best, on well-chosen anecdotes. The institutionalists were better empiricists, but their data were heavily weighted toward the experiences of low-skilled temps. This bias was especially troubling because students of work have long known that the worlds of low- and high-skilled occupations substantially differ. Permanent professional, technical, and managerial jobs are usually more secure, more remunerative, more varied and more involving than clerical and industrial jobs. It stands to reason that low- and high-skilled contingent work should vary in similar ways. By ignoring highly skilled contingent work, institutionalists conflated the effects of contingent employment with correlates of low-skilled work. Conversely, advocates of free agency peddled images of contracting built solely on the experiences of an elite. In the absence of adequate data, the institutionalists' and the free agentees' claims about the everyday realities of contracting rang hollow—as did the theoretical edifices that they erected on these claims.

There were substantive concerns as well. For example, the discourse on contracting seemed too rigid—too black-and-white—to be believable. For institutionalists, contingent work was a clear and unambiguous social problem. Temps and contrac-

tors were victims of systemic changes promulgated by exploitative employers acting entirely in their self-interest without regard for the common good in the face of a government that was unable or unwilling to protect contingent workers. For the advocates of free agency, contingent employment represented no less than a path for escaping a decaying system that had subjugated the many to the whims of the few. If ethnographers have learned anything about social life it is that reality rarely comes so neatly packaged.

Furthermore, the debate on contingent work was framed as an argument between proponents of organizations and advocates of free markets. Institutionalists set their vision of employment against the backdrop of an organizational society, its laws, and its regulations. When institutionalists recommended reform they inevitably turned to legal and bureaucratic remedies for the social costs of unfettered markets. They believed that full, permanent employment was the foundation of an equitable system. Conversely, advocates of free agency preferred the market as a model for organizing the world of work. For them releasing the forces of a free market would remedy the ills of an overly bureaucratic society. While organizations and markets are clearly important for framing an understanding of and prescriptions for the employment system, they do not exhaust the possibilities. Occupations, which both literatures ignore, are just as important.

Itinerant Experts: The Contracting Life

We began our journey into the world of itinerant experts by plunging into the practical realities of the market for technical contractors, a complex social world marked by a sea of information that contractors had to navigate periodically to find their next job.⁹ Here, we met the cast of characters that populate the contractors' world and shape its dynamics: sales-oriented account managers and recruiters hungry for the next deal; hassled project managers in need of quick access to expertise; watchful executives and human resource managers who guard the bureaucratic and legal cultures of client organizations; and other contractors who, at different times, might be competitors vying for the same jobs or

collegial sources of support and market information. We visited the various scenes, virtual and real, where market transactions and encounters unfolded: the bustling backrooms of staffing agencies; on-site and long distance job interviews; information-rich websites; users' groups; and the mazes of cubicles where high-tech work is done. The contractors whose lives we followed tacked back and forth between these characters and scenes to emerge from the market, time after time, with a deal in hand.

Successfully navigating the market for technical expertise required considerable effort and skill. Making deals in the market, newcomers soon learned, was more like haggling in a bazaar than shopping at a suburban mall. Indeed, the novice's first impression was of a confusing and often overwhelming abundance of opportunities and information of unknown quality, all of which clamored for attention. It was a bazaar, however, without clear spatial and temporal boundaries. Contractors discovered that with a web browser they could enter the market day and night. In fact, persistent and occasionally unscrupulous hawkers of market information regularly beat a path to their telephones and computer screens without invitation. Contractors, to survive, quickly became adept at playing an information game—learning to gather, order, disseminate, interpret, select, and use information about jobs, skills, rates, and clients. They built networks of other contractors, agents and hiring managers to locate, filter, distribute, and validate information. To complement and extend their networks, many turned to staffing agencies. These agencies, anxious to cash in on the market for contractors, specialized in gathering, filtering, and disseminating market information for others. For a price, they offered contractors the functional equivalent of a ready-made network. Together networks and agents, when skillfully deployed, produced steady streams of leads and opportunities.

Finding job opportunities, however, was just the first step in making a deal. To close deals contractors also had to engage in complex, three-way bargaining with hiring managers and agents. This process exposed contractors to an unexpected reality. Bargaining was more than just hag-

gling over rates that maximized income. Contractors discovered that they also had to negotiate the very definition of their skills. To the surprise of newcomers and the consternation of those who regard skills as stable and testable abilities, definitions of “technical skills” were never clear-cut. There was always a gap between what contractors believed they could do, what they said they could do, and what the clients claimed they wanted. To land a job, contractors had to identify and bridge this gap.

Thus, in the course of finding a job, contractors packaged their expertise and experience, sold their potential to learn, redefined requirements and deliverables, drew on their networks to generate recommendations, and, if necessary, bluffed their way into jobs. They also discovered that clients did not enter the market simply to find technical expertise, although most clients believed that this was what they were doing. Hiring managers also wanted to purchase peace of mind and an exemption from the hassles of managing permanent employees. Savvy contractors knew they had to sell these less tangible “products” and many did so explicitly. Contractors, therefore, periodically subjected not only the value of their skills but also their occupational identities to tough bargaining, redefinition and the discipline of the market.

From the churning marketplace, contractors entered the relative calm of the job. Even here, however, there was drama beneath the rational veneer of technical work. Although a contractor’s position in a client’s organization was usually defined well enough in legal terms, how he or she actually fit into the social fabric of organizational life was problematic. Because everyday life in most firms was still governed, to a great extent, by traditional notions of employment, the people with whom contractors worked struggled with conflicting images of the contractor’s rightful place and the mixed feelings these images generated. To make the most of the contractor’s skills, hiring managers discovered they had to integrate the contractor into the flow of activities and the network of relationships. In fact, managers sometimes gave contractors opportunities that were closed to employees or tried to recruit contractors

into permanent positions. At the same time, managers also overtly distinguished between contractors and full-timers to reassure themselves, their employees, and corporate watchdogs that contractors could make no claims on the prerogatives of membership. When the need arose, managers benefited from the comparative ease with which contractors could be dismissed. Employees were similarly torn between the use they made of contractors’ expertise, the friendships they established with contractors, and their envy of the contractors’ skills, rates, and apparent freedom. For employees, contractors often became symbols of the tenuousness of all employment in today’s economy. The contractors’ role in the companies where they found temporary respite from the market was, therefore, rife with ambiguity.

This inherent ambiguity was the defining feature of the contractors’ experience on the job. Contractors knew that no matter how appreciated, accepted, and integrated they became, they were still outsiders. Firms repeatedly drove this fact home in countless, symbolic ways, from the color of the contractors’ badges to the size and location of their office space. For some, the sense of being a second-class citizen was a constant source of anxiety, dissatisfaction, and irritation. Others took it in stride, or even found the distance that it created comforting. But one way or another, all contractors had to learn to live with their liminality. To do so, they carved out roles for themselves, ranging from “gurus” and “trusted confidants” to “hired guns” and “warm bodies” purchased solely for their “skill sets.” These roles allowed contractors to rationalize their status and resolve the practical dilemmas of life on the job. Ultimately, however, their status as outsiders was more than a symbolic issue: *All contractors knew that sooner or later they would have to return to the market in search of another job.*

Thus, their life was that of an itinerant expert—characterized by a distinct temporal rhythm, a repetitive cycle of moving from the market to a job and, then, back to the market. Contractors who wished to maximize their income had to learn to manage this cycle by continually honing and reinventing their skills—their human capital—with an eye to technology’s po-

tential trajectory and sensitivity to the waxing and waning of technical fads. Investing in human capital was not only costly in terms of time and money; it was risky. Contractors might choose a promising path only to find that the market had gone elsewhere, leaving them to absorb the costs of obsolete skills and orphaned technologies. It was the contractors' willingness to assume full responsibility for accumulating and managing their human capital that distinguished them from technical workers who preferred permanent employment.

Although continually investing in technical skills was necessary for successfully finding jobs and avoiding downtime, by itself technical knowledge was insufficient for having a lucrative career as a contractor. Contractors also required social skills and social capital. Even the most valued expertise was useless, unless the contractor could repeatedly rise above the clamor of the market, often on short notice, to attract the attention of hiring managers. This required developing networks of contacts that could channel information, generate leads, and vouch for the contractor in a timely and convincing way. It also required expanding one's notion of skill to include finesse at networking, bargaining, and interviewing. Together, social skills and social contacts complemented and enhanced the value of contractors' human capital.

Thus, even if contractors were not fully aware of the significance of their choice, by choosing the life of an itinerant expert they moved beyond the line between employer and employee. The technical work they performed hardly differed from what they had done before, but their relationship to their work changed dramatically. They were no longer salaried professionals whom firms viewed as "human resources" to be acquired, maintained, nurtured, and profitably deployed. Rather, they became commodities to be bought, used, and discarded like any other resource. Nor did contractors see themselves as human resources. They came to view themselves as independent owners of their own human capital, as entrepreneurs who relied on their own skills to navigate between success and failure. This change of orientation had far-reaching consequences for how contractors'

lives unfolded. By demanding the independence of a capitalist, contractors also incurred its risks. With independence came self-reliance.

Contractors' Identity: Itinerant Professionals

Historically, professions have been organized in three ways: What occupational sociologists call free professions, professional firms, and corporate professions. Each mode of practice offers a solution to three problems that every professional practitioner faces: How to maintain expertise, how to build client relationships, and how to ensure long-term economic security.

Free Professionals. Free professionalism is the oldest mode of professional practice and is associated most closely with medicine and law. Doctors and lawyers of the 19th and early-20th centuries, who served individual clients in a local community, were prototypical free professionals. They acquired their skills and knowledge through schooling or apprenticeships supervised by other practitioners. Once certified by members of their profession, they chose a location where they could practice their craft without stiff competition. Because free professionals thrived in an era when their field's knowledge grew relatively slowly, when many of the problems that professionals solved were routine, and when most clients could not evaluate the quality of a professional's practice, remaining sufficiently up-to-date was within the grasp of most practitioners.

Finding clients was relatively easy for free professionals because they provided services that just about everyone needed at one time or another. The inevitability of illness and legal needs also guaranteed long-term economic security. As long as local competition remained light, doctors and lawyers were sufficiently compensated to accumulate wealth that provided for long-term security. Professional associations further protected the free professional's future on legal grounds. Barriers to entry and professional norms encouraged informal monopolies and discouraged aggressive marketing. Nevertheless, individual practitioners still faced what amounted to a free market for their services. Competitors could move into communities and

vie for clients, and clients were free to choose between different providers using whatever criteria they valued. In fact, such competition, in combination with increasing specialization, gave rise to the second form of professional organizing, the professional firm.

Professional Firms. Professional firms are formal organizations composed primarily of practitioners of the same craft. Law firms, medical practices, architectural firms, accountancies, and engineering consultancies are examples. During the 20th century, practitioners began forming such firms for a number of reasons. First, professional firms allowed practitioners to specialize which, in turn, allowed them to offer a wider range of services than any single individual could offer. Second, professional firms brought economies of scale: Sharing physical and human capital enabled groups of professionals to handle more clients at lower marginal costs. Finally, professional firms allowed some practitioners (partners) to extract rents from the work of others, thereby allowing the first group to extend their potential income beyond what was possible for a professional in solo practice.

Professional firms brought together a critical mass of practitioners, often representing different age cohorts and specialties, who could pool their expertise to foster joint professional development. Professional firms also allowed a hierarchical division of labor in which higher status members could focus on finding clients, while practitioners with less status specialized in providing services, thereby enlarging the firm's client base. Hierarchical differentiation not only increased the partners' wealth, it also offered younger practitioners the security of salaried employment and a stepping-stone to their own practice. Because professional firms included a number of specialties, they encouraged the practice of joint referrals, which ensured the flow of clients. In sum, the emergence of the professional firm populated the market for professional services with competing firms, thereby aligning professional markets with markets for other goods and services.

Corporate Professionals. Corporate professionalism is the third traditional mode of organizing professional practice. Corporate professionals

are practitioners who work as salaried employees of firms staffed by a variety of occupations and who are often supervised by managers who are not members of their profession. This mode of organizing was tied to the rise of industrial corporations, especially those in the chemical and electronics industries, which made extensive use of technical and scientific knowledge. In fact, engineers, software developers and technicians have rarely, if ever, practiced as free professionals or as members of professional firms.¹⁰ Although corporate professionalism is typically associated with technical workers, it has recently become more common among members of other professions including lawyers and accountants.¹¹

By accepting the role of corporate professionals, practitioners found ready-made solutions to the problems that professionals must resolve. Because they worked for a single firm and received a salary, they had no need to concern themselves with marketing their services or competing for clients. Furthermore, as employees, corporate professionals received a full range of benefits. Because firms historically shielded their professionals from layoffs, corporate professionals could, until recently, also expect long-term job security. The costs of maintaining the corporate professional's expertise were borne by the employer, who paid for advanced training and membership in professional associations. In fact, employers often encouraged and rewarded service to the profession and, at least in the case of R&D labs, provided a fully developed occupational community with many of the trappings of a university or government lab.

Despite these comforts, corporate professionals were more likely than other professionals to experience tension between the norms of professional work and the requirements of the context in which they practiced.¹² Technical values and professional aspirations sometimes clashed with corporate goals of efficiency and profits, producing what technical professionals disdainfully refer to as "politics." It was precisely such tensions, and the dissatisfactions they produced, that led many of the technical contractors we met to seek alternatives to corporate professionalism.

The Professionalism of the Itinerant Expert

One option that our informants fantasized about—and 17 percent had tried—was to become an entrepreneur by founding a professional service firm or a technical start-up. Yet, all but one who tried eventually failed. They failed, in part, because they lacked the capital (if not the skills) necessary for running a business. The odds were also stacked against them from the very beginning. Most new businesses die young, independent of their founders' skills.¹³ Thus, for the majority of our informants, contracting was the only route out of corporate professionalism.

Becoming a contractor meant setting aside traditional models of professionalism. As a result, our informants found themselves without ready-made solutions for resolving a professional's practical problems. As they encountered these problems in their daily work, they had to invent their own solutions or adopt solutions widely practiced by other contractors. As they did so, they forged what can be viewed as a new form of professional practice that combines elements of traditional modes of practice with entirely new approaches. We call this mode of practice "itinerant professionalism".

Like free professionals, technical contractors worked as solo practitioners and, in most cases, arranged for their own benefits. They drew on their professional networks for referrals and recommendations and took responsibility for their own professional development. Like members of professional firms, contractors frequently worked for one organization, a staffing agency, but offered their services to another. Like corporate professionals, they practiced inside organizations, often as members of a team whose work was subject to management's direction. But unlike free professionals and members of professional firms, technical contractors rarely had on-going relationships with clients and were not paid on a fee-for-service basis. Nor were they salaried like corporate professionals or members of professional service firms. Instead, they were mostly paid by the hour.

Itinerancy led contractors to different solutions to the problems of finding clients, maintaining expertise and ensuring long-term security. Unlike other professionals, they found clients by aug-

menting their networks with the services of staffing agencies. In fact, some relied exclusively on agencies. These contractors were well aware that using an agency conflicted with traditional images of professionalism. They resented submitting themselves to members of a sales culture and allowing non-professionals to make a substantial profit on their services. But since using a staffing agency was often a necessity, contractors resolved their dissonance by incorporating agencies into their model of professional practice: Being savvy in one's dealings with agents was a form of expertise.

Contractors generally developed and maintained their technical knowledge much like any other professional. They took classes, joined professional associations, consulted other professionals, and educated themselves. But compared to professionals who practiced in other contexts, the contractors' skills were subject to more frequent evaluation in the marketplace, and they enjoyed fewer protections against obsolescence. Contractors' efforts to stay up-to-date were consequently more sustained, intense, and ongoing. Moreover, unlike most other professionals who distinguish between apprentices and full-fledged practitioners, contractors blurred the distinction between newcomers and veterans.¹⁴ Regardless of experience, they thought of (and presented) themselves as continual learners. They saw jobs as opportunities for learning and sought to arrange contracts into sequences that enabled them to acquire and practice new skills. Thus, under itinerant professionalism, work itself became a credentialing process.

Itinerant professionalism also hinged on a radically different solution to the problem of security. Security always entails guaranteeing one's continued employability, which, in turn, can rest on a variety of foundations. Although all professionals must rely on the enduring value of their expertise, traditional models of professionalism bolster security in other ways. The free professional's well-being rests partially on his or her reputation in a community and partially on the fact that clients have recurring needs about which they have little expertise. Corporate professionals and members of professional firms rely for security on their contin-

ued affiliation with, and the goodwill of, their employers. Contractors had recourse to neither safety net because of their transitory relationships with clients and agencies. Their security as itinerant professionals rested entirely on their ability to network and to maintain skills that others would buy.

In short, our informants' mode of practice had the trappings of a distinct form of professionalism, and contractors themselves seemed to experience their practice as unique and coherent. They exhibited what sociologists call consciousness of kind as well as consciousness of difference: Setting aside technical specialty, contractors believed that they had more in common with each other than they did with professionals who did similar work in other modes of practice.¹⁵ Informants repeatedly told us that their permanently employed counterparts had little understanding of their brand of practice or of the problems and opportunities they faced. More importantly, even though clients occasionally tried to tempt contractors back into corporate professionalism, most were unwilling to return. Thus, despite itinerant professionalism's problems and challenges, our informants overwhelmingly preferred it to corporate professionalism.

Nevertheless, itinerant professionalism had a significant Achilles heel, especially for members of technical occupations. Historically, technical occupations have lacked strong institutional supports to underwrite their professionalism. Institutional supports refer to organized systems and communities that foster occupational identities and that assist in creating, storing and disseminating substantive knowledge. Most professions have occupational associations, training programs, conferences, journals and accreditation procedures that support all members of the occupation regardless of their mode of practice. But, when compared to medicine, law, and accounting, the institutions of technical occupations have long been weak.

For example, with the exception of civil engineering, engineering societies never acquired exclusive legal rights to control entry, training, or licensing.¹⁶ More importantly, they have no procedures for evaluating and sanctioning professional performance. Even engineering journals

play a less important role in disseminating technical knowledge than do the journals of other professions, in part because engineering is an oral culture.¹⁷ The relative weakness of engineering's professional institutions is rooted in the fact that other than civil engineering, most technical occupations developed as corporate professions. In fact, during the 1920s, engineering leaders such as Frederick Taylor sought to gain control of the engineering societies in the hope of transforming electrical and especially mechanical engineering into free professions modeled on law and medicine. Employers blocked these engineers from developing full-fledged professional institutions by gaining control of their professional associations and ousting the reformers.¹⁸

For this reason, technical occupations have long relied on corporate employers for institutional support. Firms have been particularly important in funding technical schools and have played active roles in technical societies. They have also served as important repositories of expertise, largely because technical knowledge is often proprietary and application-specific. Beyond the initial degree required for practice, most advanced technical training occurs on the job within firms. Alvin Gouldner would have called engineers and technicians "local" professionals. Unlike "cosmopolitan" professionals, who are involved in national and international networks of practice, local professionals orient primarily to their employer and their occupational networks are composed primarily of fellow employees.¹⁹

Consequently, even though technical professionals may gain independence when they become contractors, they lose access to corporate professionalism's supports. This loss is crucial. Practitioners require contact with other members of their occupational community to function as technical professionals. This is because technical knowledge typically emerges unevenly across a community of practitioners as different members encounter problems and devise solutions.²⁰ Without involvement in an occupational community, practitioners lack access to these developments. Usually non-technical issues of practice, such as finding work, also require collective solutions. To fill the institutional vacuum, contractors had begun to build

occupational communities conducive to itinerant professionalism, often with the help of sophisticated communication technologies.

Community-building was usually spontaneous and informal, driven less by conscious design than by contractors' efforts to solve immediate problems. We observed contractors forming and participating in networks that offered both technical and non-technical support. Some of these communities involved face-to-face interaction, but many others were "virtual:" They existed primarily on the Internet and were organized around bulletin boards, chat rooms, and Usenet groups. These forms of communication offered much more than recreation, though they served that purpose too. They were important channels for exchanging market information and technical tips. We also observed more formal efforts to organize contractors along occupational lines. Some of our informants had taken responsibility for founding and managing users' groups. Others had founded partnerships and occupational collectives that enabled a type of informal group practice. Entrepreneurs had begun to cater to the contractors' need for occupational community by publishing journals and magazines that addressed issues that contractors repeatedly faced. Other entrepreneurs had founded Web-based employment services, such as DICE, Monsterboard, and Contract Employment Weekly, and affinity groups, such the Professional Association of Contract Employees (PACE), which provided contractors with group insurance plans and discounts on the tools of the trade.²¹

Even certain staffing agencies functioned as fledgling occupational institutions. Some agencies had begun to experiment with forms of organization that resembled contractor collectives. Systems Professionals, one of the agencies we studied, provided its contractors with opportunities for serious technical training and served as a nexus for organizing the occupational community of Unix systems administrators. Another, Expert Solutions, explicitly operated as a cooperative. In addition to finding work for its members, Expert Solutions minimized mark-ups, offered group benefit plans, and developed a system for spreading income so that no member experienced unpaid periods of downtime.²²

These proto-institutions were a far cry from the more entrenched institutions of more traditional modes of professionalism. By comparison they were incipient, loose, and decentralized. They lacked a well-developed professional ideology, an accepted theory of practice, and a formal mandate to legitimize their status as institutions. Nevertheless we contend that these arrangements, however weak, represent important steps toward institutionalizing itinerant professionalism as a stable and coherent mode of practice. Thus, the emergence of itinerant professionalism as an identifiable trend provides a platform not only for conceptualizing the structure of post-industrial labor markets, but also for formulating policies that would shape these developments in useful directions.

The Occupational Dimension

In recent years social scientists have struggled to formulate images of post-industrial organizing. Analysts have offered many intriguing suggestions about how firms are changing and markets are being transformed. Yet, most analyses are handicapped precisely by the assumption that a post-industrial order can be adequately described in terms of markets, firms, or some combination of the two. There can be no doubt that firms and markets will play crucial roles in a post-industrial economy and that they are likely to take forms that differ from the past. There is already evidence, however, that thinking solely in terms of firms and markets constrains our ability to perceive, understand, and shape the evolving *system* of work and employment.

The evidence comes from three sources: studies that point to the collapse of bureaucracies and boundaries of firms; research that shows the increasing importance of occupational forms of organizing; and studies that document the role that regional, national, and even global networks play in stimulating economic performance. We believe that the dynamics of technical contracting and the emergence of itinerant professionalism offer a clue to how these disparate insights about the changing industrial structure can be integrated into a coherent image. To see how this is possible

we need to briefly review the three strands of evidence.

The Collapse of Bureaucracy

The collapse of bureaucracy and the blurring of the boundaries of firms is the most widely acknowledged change associated with the shift to a post-industrial economy. Analysts have employed a variety of terms and metaphors to capture the development and the forms of organizing that are emerging in its wake: virtual organizations; sham-rock organizations; network organizations; boundaryless organizations; and lean structures are but a partial list.²³ Although these attempts to characterize new forms of organizing differ in important ways, most analysts agree on four underlying trends.

The first is the trend toward “flatter,” “leaner” organizations. Since the mid-1980s corporations have systematically reduced the number of middle managers they employ, often eliminating entire layers of hierarchy, which shortens a firm’s chain of command.²⁴ Second, corporations have shifted to “outsourcing” goods, skills, and services that they once provided for themselves. Outsourcing means that firms now turn more frequently to other firms not only for janitorial and food services, but also for manufacturing subassemblies, maintaining information technologies, developing software, and acquiring other professional services. Delaying and outsourcing reduce headcount by compacting an organization along its vertical and horizontal axes, respectively. Combined, these trends reverse the industrial era’s strategy of making firms self-sufficient through vertical and horizontal integration.²⁵

As firms become less self-sufficient, their boundaries become more permeable because lean firms must, by definition, acquire more resources externally. Ties to other organizations, therefore, become more critical. Although firms can certainly purchase supplies, skills, knowledge, and other resources on the open market, price and availability are easier to coordinate and control when buyers, suppliers, and collaborators enter into long-term relationships governed by contracts and reciprocal trust. Most analysts agree that forming and managing strategic alliances constitute a third trend in post-industrial organiz-

ing. Researchers have conclusively shown that strategic alliances have become increasingly common over the last two decades.²⁶ These alliances include marketing, supply, manufacturing, licensing, and research and development agreements between two or more firms. Strategic alliances embed organizations in an evolving network of relationships, which place a premium on managing efficient flows along supply chains.²⁷

Finally, more and more organizations are turning to project teams as a model for organizing productive activities. Unlike functions or divisions, projects have limited life spans and rely on temporary concentrations of resources and personnel that can be jettisoned or redeployed at the project’s end. Although high-technology firms have long organized themselves this way, project structures have gained popularity in industries as diverse as banking, health care, advertising, insurance, and education. Project structures and an increasing willingness to outsource partially account for firms’ expanding use of contractors.

Occupational Forms of Organizing

Although less widely discussed, the occupational structure of society has also changed significantly over the last four decades.²⁸ In 1950, 40 percent of all Americans were directly employed in the production of goods either as crafts persons or as operatives and laborers.²⁹ By 1998, employment in these occupational groups had fallen to 24 percent, mainly at the expense of semi-skilled and unskilled workers. Although the proportion of the labor force engaged in craftwork declined slightly from 14 percent to 11 percent, the proportion of Americans employed as operatives and laborers was halved, falling from 26 percent in 1960 to 13 percent in 1998.

The demise of blue-collar work has been offset by tremendous growth in the white-collar labor force. Employment in managerial, service, sales, clerical, professional, and technical occupations rose from 47 percent in 1950 to 72 percent in 1998. Although the increase in white-collar work is hardly news, several details of the shift are poorly appreciated. Analysts often suggest that an expansion of clerical and service jobs has largely offset the decline in manufacturing. Consequently

one frequently hears that the American economy is being transformed into a service economy marked by low-paid jobs in fast-food franchises and clerical sweatshops.³⁰

Occupational data do not support such claims. Clerical employment peaked in 1970 at 18 percent of the labor force and has subsequently declined by a percentage point. Even more problematic for the claim that America is becoming a service economy are data on employment in low-skilled service work. Lower skilled service jobs now account for 16 percent of the workforce, but service employment has grown by only 4 percentage points since 1960. Nor do managerial and sales work account for most of the increase in white-collar work. Today 1.5 and 4 percent more Americans work respectively as managers and salespersons than in 1950. The largest expansion in white-collar employment has occurred among professional and technical occupations. Since 1950 professional and technical employment more than doubled, growing from 8 percent to 18 percent of the workforce. In fact, by 1991, professional and technical workers had become the largest occupational sector surpassing even clerical workers and operatives. The Bureau of Labor Statistics currently estimates that by 2010, one in five Americans will be professionals or technicians.³¹

If employment in craft, professional, and technical work is a rough index of the relative importance of occupationally organized work, then census data clearly indicate that occupational forms of organizing are becoming more prominent. Figure 1 summarizes the shift toward occupational organizing. It plots the ratio of horizontally (or occupationally) to vertically (or hierarchically) organized sectors of the labor force since 1900. The ratio's denominator tracks the vertical sector as the percentage of Americans employed in managerial, sales, operative, and clerical jobs. The numerator represents occupationally organized work, the percentage of the labor force employed in craft, professional, and technical work. Between 1900 and 1998 the ratio grew from 0.38 to 0.56. Not only has most of the shift occurred since 1950, but the rate of the shift to occupationally organized work increased in the 1990s.

Networks and Economic Vitality

A third strand of evidence in the literature on post-industrial organizing points to the importance of social networks for the vitality of economic regions. Relevant social networks may be based on occupational and professional ties, expertise in related technologies, involvement with an industry, exchange between suppliers and cus-

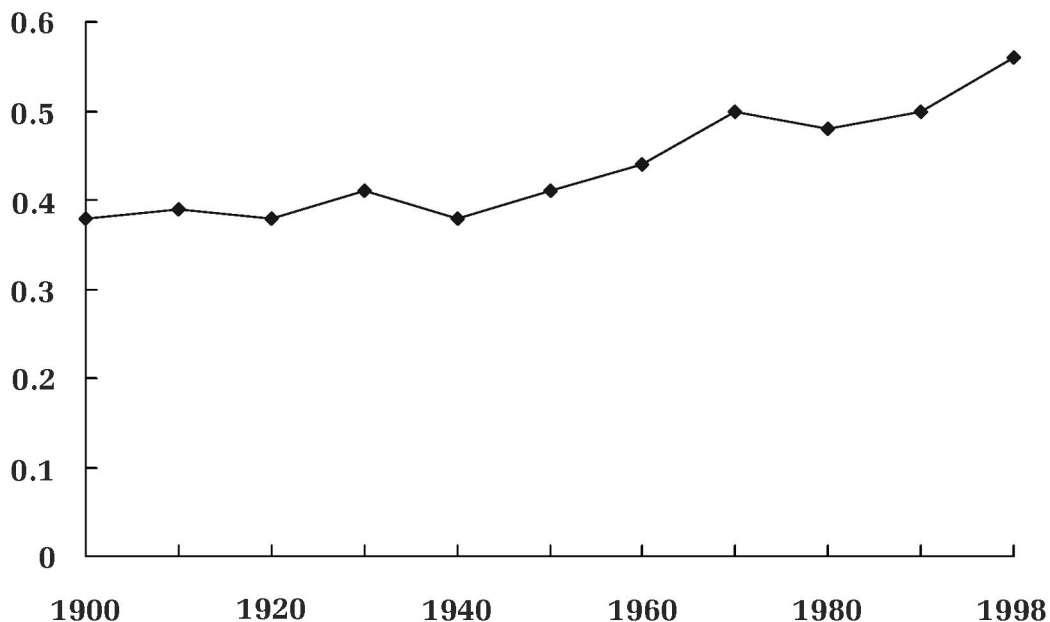


Figure 1
The Shift Toward Occupational Organizing

tomers, physical proximity, ethnic identity, social class, and even friendship. Social and economic historians have long recognized that familial, religious, ethnic, and political ties were crucial to pre-industrial commerce. In a careful analysis of social networks in medieval Florence, John Padgett showed that commerce in Italian city-states pivoted on business alliances formed among friends, family, and political allies. Which ties mattered in Florence depended, in large part, on which period of the city's history one is discussing.³² For our purposes, the important point is that, as one era's defining pattern of relationships gave way to another, the rules and the types of organizations that supported trade and finance in Florence also changed.

Although interpersonal relationships have always played more of a role in modern commerce than economists, and even sociologists, acknowledge, most analysts agree that the spread of bureaucracy relegated social ties to secondary status as a guarantor of trust in transactions.³³ Indeed, the defining characteristic of bureaucratic organizing was the replacement of patrimony's arbitrariness with specified rules and procedures for taking action and rewarding performance.³⁴ As economic transactions increasingly occurred between organizations headed by professional managers, instead of by entrepreneurs and owners, legally binding contracts increasingly overshadowed social ties as the basis for agreement, trust, and exchange.³⁵

The Second Industrial Divide, Michael Piore and Charles Sabel's influential treatise on the decline of mass manufacturing and the rise of flexible production, argued that a combination of craft production and flexible technology would become increasingly important, at least in some sectors of post-industrial commerce. In making their case, Piore and Sabel drew attention to the distributed networks of Northern Italy's industrial districts and the New York garment industry, where groups of small manufacturers were able to quickly produce high quality goods in small lots for burgeoning boutique markets. These firms tended to be geographically clustered and to be bound not only by business alliances, but also by informal social relationships and cultural ties. Skeptics doubted Piore and Sabel's thesis, in part, because the man-

ufacturing of clothing did not seem relevant to a high-technology economy. A more important critique, from our perspective, is that Piore and Sabel seemed to assume that a permanently employed and organizationally embedded labor force would be responsible for craft-based production. In short, they did not take the distinction between occupation and organization to its logical conclusion.

Annalee Saxenian has shown that Piore and Sabel's argument becomes more relevant to the American high-technology sector when analysts take the mobility of skilled workers into account. In *Regional Advantage*, Saxenian compared the social structure and business practices of the Silicon Valley with those of Boston's Route 128, the center of the "Massachusetts Miracle" of the 1960s and 1970s. Whereas the economic vitality of Route 128 stalled in the late 1980s and early 1990s, the Silicon Valley was able to rejuvenate itself. Saxenian argued that the Valley's economic vitality rested on networks of interpersonal relationships that spanned firms and linked investors, entrepreneurs and technical professionals. On Route 128, managers and technical professionals tended to remain with a single firm and competitors resisted collaboration. Technical professionals in the Valley, however, collaborated across firms and moved frequently from one organization to another in search of better salaries and greater challenges. Saxenian argued that the Silicon Valley benefited from these more dynamic networks because they facilitated the flow of expertise and capital within the region. More recently, Saxenian has shown that dense, fluid interpersonal ties between globally mobile Indian and Taiwanese entrepreneurs in the Silicon Valley have fed the development of India and Taiwan's high-tech economies and have linked those economies to the economy of the Bay Area.³⁶

Taken together, the trend toward outsourcing, the increasing importance of occupational forms of organizing, and the mounting evidence that social capital and inter-firm mobility are vital to vibrant high-technology industries, provide a backdrop for interpreting the emergence of itinerant professionalism. Viewed from this perspective, the spread of technical contracting seems to be more than a simple manifestation of the free

market's resurgence. Nor does technical contracting seem to represent merely the failure of existing labor institutions to protect workers from employers' exploitation. Instead, technical contracting and the itinerant professionalism it fosters may actually represent an incipient economic form, which for lack of a better term, we shall call a "matrixed economy."

Our image of a matrixed economy draws inspiration from the "matrix" form of organizing that aerospace firms pioneered in the 1950s and that has subsequently diffused across most high-technology industries from semiconductors, computers, and software to biotechnology and pharmaceuticals.³⁷ Figure 2 displays a typical project matrix or overlay. In a matrix structure, technical professionals are typically assigned to functional areas. In aerospace, functional areas include propulsion, guidance, and power systems. In software development, functions might encompass device drivers, interface design, and so on. Like a discipline, an occupational community or a community of practice, functional areas are concentrations of specialized expertise. Functional managers are responsible for recruiting, training, evaluating, and developing

professionals and for developing, codifying, and maintaining the company's body of expertise.

To do their actual work, however, technical employees are assigned to one or more separately managed projects that cut across functions for limited periods of time. While on the project, technical experts collaborate with members of other specialties to produce a working product or component. A project manager, responsible for coordinating the project, directs the expert's work on the project, while a functional manager usually allocates the expert's time to different projects and evaluates and rewards his or her performance. Once a project is finished, experts return, literally or metaphorically, to their functions until they are reassigned. Thus, in a matrix, technical experts are jointly managed by both functional and project managers. Ideally, a project matrix enables engineers to remain up-to-date in their field (function), while simultaneously orienting themselves to the specific needs of a project.³⁸ In other words, a matrix is formed by temporary intersections of occupations and tasks.

With the emergence of itinerant professionalism, extending the logic of a project matrix from a

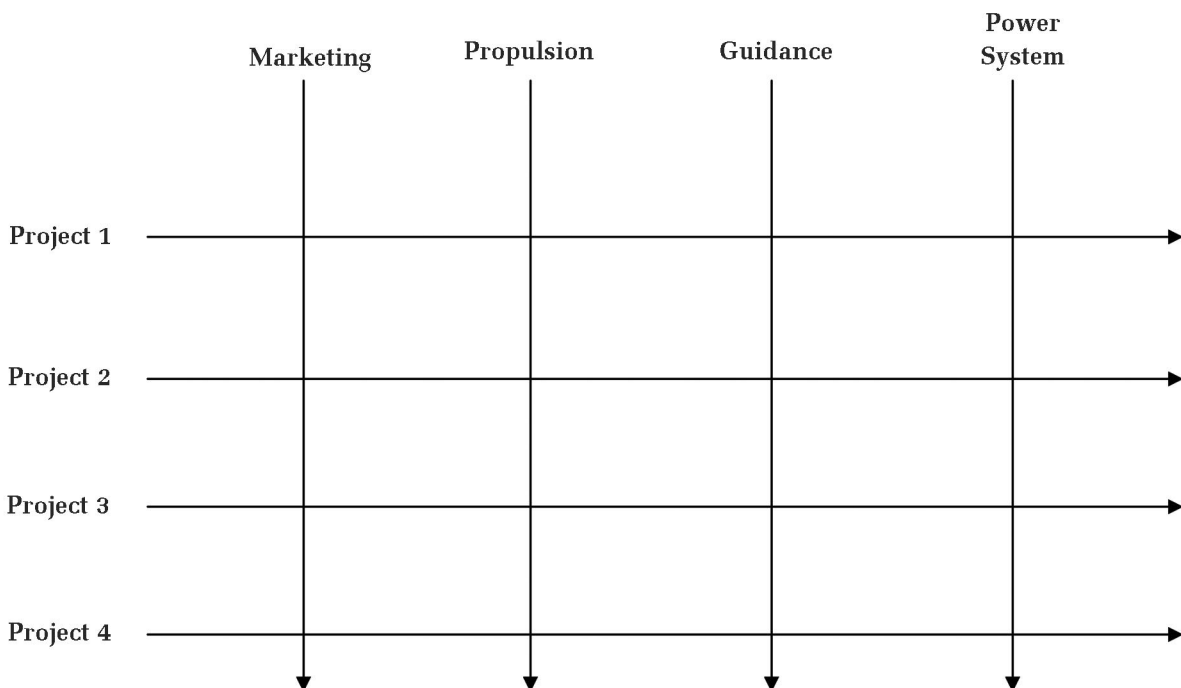


Figure 2
Typical Project Matrix Overlay

firm to a high-tech economy is relatively straightforward, entailing only a step up in the level of analysis. As Figure 3 illustrates, in a matrixed economy, firms play the role of projects, and occupational communities or communities-of-practice play the role of functions. Staffing agencies and networks of practitioners allocate itinerant experts for a limited period of time to firms, whose projects become temporary loci of practice. While “assigned” to a firm, the itinerant professional collaborates with other specialists, who may be employees, contractors, or both, to complete a specific task that usually involves developing a product or delivering a service. Subsequently, the itinerant expert “returns,” however briefly, to the community-of-practice until networks and agencies are activated and the contractor moves to another firm.

Thus, in a matrixed economy, firms become the loci for a set of projects, and occupations become the nexus for accumulating, developing, and disseminating knowledge. Firms access occupational knowledge through temporary employment relationships. The occupational needs of the itinerant professional—learning and maintaining professional expertise, finding clients, and ensur-

ing long-term economic security—are handled *outside* firms through a combination of individual initiative, professional associations, occupational networks, and for-profit ventures.

All of this means that a matrixed economy cannot operate without some form of occupational organizing, even if it is no more fully developed than loose and overlapping networks of practice. It should also be easier for a matrixed economy to develop when occupational specialists and the firms that require their services are geographically clustered. Clustering reduces the costs of mobility and increases the odds that members of a specialty will develop ties to each other. Thus, one would expect to find more developed matrixed economies in large cities and in high-tech enclaves like the Silicon Valley, Austin, Boston, Raleigh-Durham, Tel-Aviv, and Bangalor. However, as our data suggest and Saxenian’s research shows, when itinerant experts are willing to travel long distances, matrix logic can extend beyond regions to entire countries and even around the globe. Thus, of the two conditions that facilitate matrix dynamics, occupational forms of organizing appear more essential than geographical proximity.

In sum, contract labor markets provide evi-

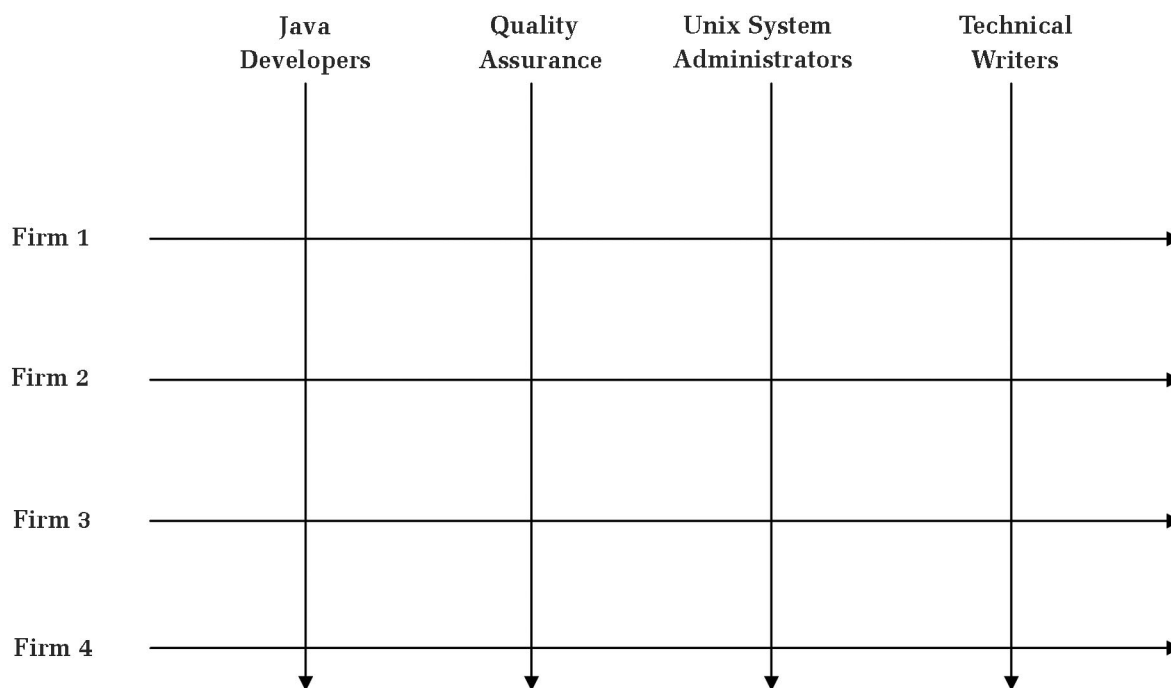


Figure 3
Matrixed Economy

dence of the larger trend toward occupational forms of organizing in a post-industrial economy. The importance of the occupational dimension undermines the view that contracting represents a shift to free agency in a free market. Although market dynamics are involved, the market for itinerant expertise is not free, in the traditional sense of the term, because it cannot operate successfully without the support of occupational structures and the informational services currently offered by staffing agencies and professional networks. Likewise, recognizing the importance of occupational dynamics underscores why it would be a mistake to heed uncritically any call to resolve the imperfections of the market for high-tech contractors by returning to the organizationally-based institutions of the past. Doing so would be tantamount to reinforcing corporate professionalism, which truncates the networks-of-practice that facilitate the flow of technical expertise by favoring the firm's power over the practitioner.

Nevertheless, as institutionalists would argue, structural supports are required to resolve a number of problems that plague contract labor markets. For example, left alone, the market is unlikely to rectify contractors' inadequate access to health insurance and retirement plans. The market is also unlikely to create significant pressure for altering the laws and administrative rulings that have unwittingly advantaged staffing agencies by forcing large numbers of contractors to work through agencies. Nor is the market likely to facilitate the maturation of occupational institutions that would assist contractors in developing skills, social capital, and other resources. Resolving these issues will require new institutions tailored to the exigencies of itinerant professionalism and a matrixed economy.

Supporting Itinerant Professionalism

Benefits

The American system of social welfare remains closely tied to the cultural and legal institutions of permanent employment. Since the New Deal, most Americans have acquired health insurance and pension plans through their employers. Employers not only negotiate with insur-

ance carriers for lower group rates, but large employers usually subsidize insurance and contribute directly to pension plans. As we discussed earlier, one of the reasons that firms have turned to contractors is to avoid paying benefits, payroll taxes, and other expenses of employment. Although it is certainly possible for contractors to purchase their own health insurance, rates for individuals for the same level of protection are usually higher than for members of group plans. Aside from investing in an individual retirement account (IRA), contractors are also largely precluded from tax advantaged retirement plans unless they incorporate, join a professional association that offers a 401k plan, or tie themselves to a staffing agency long enough to qualify for a 401k.³⁹

Research has consistently shown that low-skilled temporary workers are less likely than full-time employees to have retirement accounts and health insurance.⁴⁰ Much the same was true for the contractors we interviewed, although the problem was more severe for pension plans than for health insurance. Of the informants for whom we had data, 45 percent had no pension plan. Another 20 percent contributed only to an IRA. Twelve percent contributed to a 401k offer through an agency, and another 10 percent had a Keogh or SEP-IRA. In short, the majority of our informants had little in the way of savings earmarked for retirement. The lack was particularly common among younger contractors. By contrast, only a small (but still troubling) percentage of our informants did without health insurance (12 percent). Forty-four percent purchased their own insurance, although many were quick to note that their coverage was not as extensive as it had been when they were employees. Employed spouses covered another 19 percent of our informants. Seven percent had been permanently employed recently enough to still qualify for COBRA benefits.⁴¹ The remaining 9 percent found insurance through staffing agencies or elsewhere.

Although staffing agencies have increasingly begun offering pension plans and health insurance as a way of attracting contractors, most require that individuals work for the agency for 6 to 18 months before they qualify for coverage. Because the average contract lasts from 3 to 9 months, and

because contractors rarely work for the same agency sequentially, few contractors ever qualify for the agencies' plans. Thus, the tendency for contractors, especially younger contractors, to be underinsured and to forgo retirement accounts represents a significant long-term problem, not only for the contractors, but for society as well. Establishing portable pension and health care plans that would follow contractors from job to job, modeled perhaps on education's TIAA-CREF, would largely eliminate the benefit problem. One can imagine a system that would require agencies to contribute to these plans whenever an agency served as a contractor's employer-of-record, regardless of the length of the contract. Another approach would be to change employment law to allow affinity groups and professional associations to provide contractors with group rates and continual coverage. Although professional associations can and do offer group health insurance, at present only employers can offer tax advantaged pension funds.

Removing the Staffing Industry's Legal Advantage

During the 1980s the Internal Revenue Service increased its scrutiny of how firms used independent contractors because it suspected that firms were using contractors to avoid paying payroll taxes. Although the IRS's charge of tax evasion was reasonable, its greater regulatory scrutiny unintentionally created a windfall for staffing agencies. To avoid being found in violation of employment and tax law, firms increasingly mandated that contractors establish an employer-of-record relationship with an agency. Although such policies protect firms and reduce the incidence of tax evasion, they ensure a market for agencies whose mark-ups increase the client's cost of employing contractors, while also potentially reducing contractors' wage rates.

By brokering information and assuming the legal duties of employers-of-record, agencies offer an important service to contractors as well as to clients. Moreover, without their involvement, the contract labor market would be less viable and perhaps even less vibrant. Thus, the issue is not whether staffing agencies are useful, but rather

whether it is efficient to allow agencies to maximize their mark-ups while also offering contractors minimal benefits. The current system essentially supports a transfer of funds from the pockets of clients and contractors to the coffers of staffing agencies. Moreover, the size of an agency's mark-up varies widely. Large firms can protect themselves by entering into preferred vendor agreements. But small firms and contractors have few options for resisting unreasonable mark-ups, aside from shopping for agencies that take smaller mark-ups. Many agencies resist such shopping by treating their mark-ups as confidential information.

The staffing industry's unintended legal advantage could be addressed in a variety of ways. The government could choose to regulate mark-ups, but such an approach would not only be unpopular in the current economic climate, it is also unnecessary. Another approach would be for the IRS and Congress to reexamine the implications of current laws and administrative rulings regarding independent contractors and incorporation. It does not seem impossible to devise tax laws that would protect against tax evasion without making it unnecessarily risky for firms to hire independents or costly for contractors to incorporate.

Yet another approach would be to encourage professional associations and affinity groups to serve as employers-of-record. The Professional Association of Contract Employees (PACE) provides a model. PACE, an affinity group, operates ProTrac, which provides pass-through employer-of-record services for contractors. Contractors become ProTrac employees, known as "division managers." For a mark-up of 5 percent, ProTrac provides not only payroll and tax services, but offers contractors access to a variety of benefits, including group health insurance and 401k plans. Although ProTrac is structured as a "for-profit" affinity group, existing professional associations and even professional unions could assume a similar role.

Facilitating Occupational Institutions

We have seen that professional networks and users' groups are crucial to a matrixed economy's operation. Encouraging such groups to form and organize, as non-profit occupational associations,

would assist contractors in a variety of ways. In addition to offering health care and pension funds, such organizations could also contract with service providers to offer contractors discounts on training programs, materials, equipment, and supplies. Occupational associations could also assist with designing curricula and websites to assist contractors in finding jobs and keeping their skills up-to-date. Given the speed at which technologies change, it would be difficult for occupational associations to offer extensive curricula and courses. However, one can imagine occupational associations organizing a network of practitioners and users' groups that could respond to technical developments. By negotiating alliances with community colleges and vendors, occupational associations could also offer members discounted access to certification programs.

One model for such associations is the Free Agent Forum, an on-line affinity group for contractors, established by John Frederico in 2001. In return for a membership fee, the Free Agent Forum offers affiliates access to job postings, organizes technically oriented networks of practice, and offers discounts on tools and supplies. Free Agent Forum, however, caters to a variety of occupational groups. The Graphic Artists Guild, a craft union for illustrators, web designers, and other visual media occupations, is more focused. The Guild sponsors workshops and classes for members, as well as career assistance and job postings. Labor unions and professional societies could play an important role in forming occupational associations, if both were willing to embrace a philosophy of encouraging organizing by craft or specialty, respectively. Historically, unions and professional societies have sought to aggregate across occupational groups. Although reasonable in a world of permanent employment, the pressure for cross-occupational collectives is less suited to the structure of highly skilled contract labor markets.

Finally, encouraging the formation of occupational associations would be of considerable benefit to clients. Ensuring that contractors have the skills they claim to have is one of the most significant problems facing hiring managers. Because membership in an occupational association is based on the possession of skills and expertise,

occupational associations would be better positioned than most staffing agencies to assess and certify the skills of their members. In fact, certification could well be a revenue generating service for professional associations. Occupational associations could offer rigorous skill verification for clients who use the association to locate contractors.

Contracting among skilled technical professionals is but one indicator that the nature and mix of employment relations are being transformed. Contract employment is spreading to most other occupations, including medicine, law, accounting and even management itself. It is now possible for firms to purchase the services of a contract CFO, a CIO and even a CEO, and there are staffing agencies that specialize in placing such individuals. We have entered an era when temporary employment is no longer confined to a segment of the clerical and industrial labor force. Although we recognize that outsourcing, offshoring and contracting are significant departures from the past, we have not yet realized how much our institutions of employment lag behind reality. Until we recognize that the nature employment is changing, we are likely to act with outdated assumptions that will bring unintended, deleterious consequences. The current debate over the privatization of social security, for instance, rests on the assumption that individuals will know how to invest for themselves. But if the contractors we met are representative, it would seem that this assumption is suspect even for the most highly educated segment of the labor force. Institutional change almost always lags behind changes in practice. Nevertheless it behooves us to minimize the lag when changes in practice are as central to a way of life. A shift in the nature of employment is precisely the kind of change that historians use to identify a society's movement from one economic era to another.

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- ¹ Handy's book, *The Age of Unreason*, was a best seller: Handy, C. 1989. *The age of unreason*. Boston: Harvard University Press. The academic literature indicates that firms frequently hire contractors for the reasons Handy promoted. For empirical evidence on firm's motives for hiring contractors see: Mangum, G., Mayall, D. & Nelson, K. 1985. The temporary help industry: A response

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² "Institutional" and "institutionalist" are words with rich and thick meaning in the social sciences. We use the term to refer to analysts who view markets as "socially embedded," who ask how institutions shape labor markets. By institutions they typically mean not only laws and established organizations, but cultural norms and practices. Economists who study how social structures affect markets have historically been called "institutional economists." For institutionalists who have written about contingent labor, see: Osterman, P. 1988. *Employment futures: Reorganization, dislocation and public policy*. New York: Oxford University Press; Parker, R. E. 1994. *Flesh peddlers and warm bodies: The temporary help industry and its workers*. New Brunswick, N.J.: Rutgers University Press; Barker, K. & Christensen, K. 1998. Controversy and challenges raised by contingent work arrangements. In *Contingent work: American employment in transition* (Eds.) Barker, K. and Christensen, K. Ithaca, NY: ILR Press, 1–20; Cappelli, P., Bassi, L. Katz, H., Knoke, D. Osterman, P. & Useem, M. 1997. *Change at work*. New York: Oxford; Carre, F.J. & Joshi, P. 1997. *Building stability for transient workforces: exploring the possibilities of intermediary institutions helping workers cope with labor market instability*. Cambridge, MA: Radcliffe College; Kalleberg, A.L., Rasell, E., Hudson, K., Webster, D., Reskin, B.F., Naoi, C., & Appelbaum, A. 1997. *Non standard work, substandard jobs: Flexible work arrangements in the U.S.* Washington, D.C.: Economic Policy Institute; Smith, V. 1998. The fractured world of the temporary worker: Power, participation, and fragmentation in the contemporary workplace. *Social Problems* 45: 1–20.

³ For extended discussions of dual labor market theory, see: Berger, S. & Piore, M.J. 1980. *Dualism and discontinuity in*

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⁴ For discussions of the negative social consequences of an expanding contingent workforce, see: Dillon, R.L. 1987. *The changing labor market: Contingent workers and the self-employed in California*. Sacramento, CA: Senate Office of Research; Osterman, 1988, supra note 2; Martella, M. 1991. *Just a temp: Expectations and experiences of women clerical temporary workers*. Washington, DC: U.S. Department of Labor, Women's Bureau; Cohen, Y. & Haberfeld, Y. 1993. Temporary help service workers: Employment characteristics and wage determinants." *Industrial Relations* 32: 272–287; Hipple, S.F. & Stewart, J. 1996. Earnings and benefits of workers in alternative work arrangements. *Monthly Labor Review* 119: 46–54; Polivka, A.E. 1996. A profile of contingent workers. *Monthly Labor Review* 119: 10–21; Christensen, K. 1998. Countervailing human resource trends in family-sensitive firms. In *Contingent work: American employment in transition* (Eds.) Barker, K. & Christensen, K. Ithaca, NY: ILR Press, 103–126; Barker, K. 1998. Toiling for piece-rates and accumulating deficits: Contingent work in higher education. In *Contingent work: American employment in transition* (Eds.) Barker, K. & Christensen, K. Ithaca, NY: ILR Press, 195–220; Spalter-Roth, R. & Hartmann, H.I. 1998. Gauging the consequences for gender relations, pay equity, and the public purse. In *Contingent work: American employment in transition* (Eds.) Barker, K. & Christensen, K. Ithaca, NY: ILR Press, 69–102; Banigin, W. 1998. Visa program, high-tech workers exploited, critics say. *Washington Post*, July 26:1; Houseman, S.N. & Polivka, A.E. 1999. The implications of flexible staffing arrangements for job stability. Working Paper 99–056. W.E. Upjohn Institute for Employment Research, Kalamazoo, MI.

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⁸ Bridges, 1994, supra note 7, 64–65.

⁹ We entered the world of contracting in the fall of 1997 and remained there until the fall of 1999. Collecting and analyzing these data consumed the better part of four years. About a year after we left the field, as we were pondering the significance the data, the economic conditions of high-tech employment changed dramatically. The Internet boom and the tight labor market it spawned collapsed, ushering in a recession. Along with the rest of the economy the world of contracting shifted as well. Whether the tale told here speaks only to a specific historical period and the extent to which it continues to be relevant, ultimately remains to be seen. But, we believe that the dynamics discussed in this article lie beyond the short cycles of the economy: The essence of contracting is an employment relationship. In the “Epilogue” of the book on which this article is based, we discuss what occurred after the recession began and how it affected contractors. The data show that, like full-time employees, contractors suffered, but they did not disappear. On the contrary, their presence remained a significant feature of the labor market even in the face of recession. According to the American Staffing Association, in 2004 contingent employment had returned to its pre-recession level. This has yet to occur for permanent employees. Thus, with appropriate modifications for changing levels of demand, the dynamics found in the labor market of the 1990s still hold.

¹⁰ The primary exception is Civil Engineering. Civil engineers must be licensed to practice and a significant percentage of their work takes place in structural engineering firms. The following studies provide useful discussions of the social organization of engineering in the United States and other industrial nations: Perrucci, R. 1971. Engineering: Professional servant of power. *American Behavioral Scientist* 14: 492–505; Ritti, R.R. 1971. *The engineer in the industrial corporation*. New York: Columbia University Press; Zussman, R. 1985. *Mechanics of the middle class*. Berkeley, CA: University of California Press; Whalley, P. 1986. *The social production of technical work*. Albany, NY: State University of New York Press;

Meiksins, P.F. & Smith, C. 1993. Organizing engineering work: A comparative analysis. *Work and Occupations* 29: 123–146.

¹¹ Although sociologists have yet to pay much attention to the phenomenon, during the latter half of the 20th century management itself appears to have begun to spin off specialties, such as marketing and finance, which have many of the attributes of professions.

¹² Sociologists have written about the tensions experienced by professionals in corporations since the late 1950s, when the topic generated a small cottage industry of research. Most of the research focused on engineers. Key books and papers in this tradition include: Kornhauser, W. 1962. *Scientists in industry: Conflict and accommodation*. Berkeley, CA: University of California; Scott, W.R. 1965. Reactions to supervision in a heteronomous professional organization. *Administrative Science Quarterly* 10: 65–81; Pelz, D.C. & Andrews, F.M. 1966. *Scientists in organizations: Productive climates for research and development*. New York: Wiley; Miller, G.A. 1967. Professionals in bureaucracy. *American Sociological Review* 32: 755–768; Perrucci, R. & Gerstl, J.E. 1969. *Engineers and the social system*. New York: Wiley; Perrucci, R. & Gerstl, J.E. 1969. *Profession without community*. New York: Random House; Engel, G. 1970. Professional autonomy and bureaucratic organization. *Administrative Science Quarterly* 15: 12–21; Raelin, J.A. 1985. *The clash of cultures: Managers and professionals*. Boston: Harvard University Press; Von Glinow, M.A. 1988. *The new professionals: Managing today's high tech employees*. Cambridge, MA: Ballinger.

¹³ The dynamics of births and deaths among populations of organizations has received considerable empirical attention in the last two decades, spawning a school of organizational theory known as population ecology. For a comprehensive treatment of the tenets of population ecology, see: Hannan, M.T. & Freeman, J.H. 1988. *Organizational ecology*. Cambridge, MA: Harvard University Press.

¹⁴ The blurring of the distinction between newcomers and old-timers may reflect the fact that so many of the contractors we encountered worked in software development and IT related occupations. These areas of practice change so quickly that newly minted graduates are likely to have more cutting edge skills than do practitioners with years of experience.

¹⁵ To identify with a group, one must perceive oneself to be similar to other members along whatever dimensions are phenomenologically relevant to the group, but one must also perceive oneself to be different from individuals who are not members. For a discussion of the concept of community, see: Weber, M. 1968/1922. *Economy and society*. Berkeley, CA: University of California Press. In this work, Weber insisted that consciousness of kind occurs only in conjunction with consciousness of difference: “A common language, which arises from a similarity of tradition through the family and the surrounding social environment, facilitates mutual understanding. . .but, taken by itself, it is not sufficient to constitute a communal relationship. . .it is only with the

- emergence of a consciousness of difference from third persons who speak a different language that the fact that two persons speak the same language and, in that respect, share a common situation, can lead them to a feeling of community and to modes of social organization consciously based on the sharing. . .”
- ¹⁶ For instance, even though the Accreditation Board for Engineering and Technology (ABET) certifies engineering programs, certification is not necessary for a school or department to train engineers and firms appear quite willing to hire graduates of non-ABET certified programs. In software development the situation is even less structured. Large numbers of software developers have never taken courses in programming or computer science. What matters in software development is whether one can write code and how elegantly one can write it.
- ¹⁷ Thomas Allen showed that engineers rarely rely on written materials, aside from textbooks and engineering reports in Allen, T.J. 1977. *Managing the flow of innovation*. Cambridge, MA: MIT Press. Instead, Allen argues, they prefer to acquire technical knowledge through conversation. For this reason, those engineers who do read—engineers whom he called “technical gatekeepers”—were particularly important in R&D labs.
- ¹⁸ For an account of the short-lived “revolt of the engineers,” see: Layton, E. 1971. *The revolt of the engineers: Social responsibility and the American engineering profession*. Baltimore, MD: Johns Hopkins Press
- ¹⁹ In Gouldner, A.W. 1957–1958. Cosmopolitans and locals: Toward an analysis of latent social roles - II. *Administrative Science Quarterly* 2: 444–477, Gouldner adopted the terms from Merton, R. K. 1957. *Social theory and social structure*. New York: Free Press. Studies of the implications of the cosmopolitan-local dichotomy among technical professionals include: Goldner, F.H. & Ritti, R.R. 1967. Professionalization as career immobility. *American Journal of Sociology* 72: 489–501; Kronus, C.L. 1976. Occupational versus organizational influences on reference group identification. *Sociology of Work and Occupations* 3: 303–330; Goldberg, A.I. 1976. The relevance of cosmopolitan/local orientations to professional values and behavior. *Sociology of Work and Occupations* 3: 331–354; Jauch, L.R., William G. Glueck, & Osborn, R.N. 1978. Organizational loyalty, professional commitment, and academic research productivity. *Academy of Management Journal* 21: 84–92.
- ²⁰ For how knowledge emerges and is communicated within occupational communities and communities of practice, see: Van Maanen, J. & Barley, S.R. 1984. Occupational communities: Culture and control in organizations. In *Research in organizational behavior*, vol. 6 (Eds.) Staw, B.M. & Cummings, L.L. Greenwich, CN: JAI Press, 287–365; Orr, J.E. 1997. *Talking about machines: An ethnography of a modern job*. Ithaca, NY: ILR Press; Wenger, E. 1998. *Communities of practice: Learning, meaning and identity*. Cambridge: Cambridge University Press.
- ²¹ Working Today is a non-profit affinity and advocacy group founded by Sara Horowitz in 1995. Working Today serves contractors and other contingent workers in New York City. It offers contractors health insurance, portable pensions and other benefits. More information on Working Today can be found at <http://www.working-today.org>. Pace is organized by James R. Zeigler who also publishes the extremely useful online book, *The Contract Employees' Handbook*. Information on PACE and the Handbook can be found at <http://www.cehandbook.com>.
- ²² Expert Solutions is located in Mountain View, CA. We interviewed the founders as part of our research.
- ²³ These terms are to be found respectively in Byrne, J.A. 1993. The virtual corporation. *Businessweek* October 18: 66–72; Handy, C. 1989. *The age of unreason*. Boston: Harvard University Press; Powell, W. W. 1990. Neither market nor hierarchy: Network forms of organization. In *Research in Organizational Behavior*, vol. 12 (Eds.) Staw, B.M. & Cummings, L.L. Greenwich, CT: JAI Press, 295–335, 295–335; Arthur, M.B. & Rousseau, D.M. 1996. *The Boundaryless career: A new employment principle for a new organizational era*. New York: Oxford University Press; Womack, J.P., Jones, D.T. & Roos, D. 1990. *The machine that changed the world: The story of lean production*. Cambridge, MA: MIT.
- ²⁴ See American Management Association. 1996. *1996 AMA survey on downsizing, job elimination and job creation*. New York: American Management Association.
- ²⁵ Vertical integration refers to acquiring firms and resources so that the acquirer owns interests in all steps of a manufacturing process from raw materials to the distribution of finished goods. Horizontal integration refers to acquiring firms and services in unrelated industries.
- ²⁶ The research literature on strategic alliances constitutes a significant percentage of contemporary research on corporate strategy. The prominence of strategic alliances has given rise to network images of how industries are organized.
- ²⁷ Supply chain analysis refers to methods for optimizing flows of resources, goods and services from suppliers to manufacturers and, then, on to distributors. Information technology is critical to the management of supply chains. Supply chain analysis has attracted much recent attention in operations research and industrial engineering.
- ²⁸ For detailed analyses of the changing occupational structure in the U.S. and other industrial nations see: Block, F. 1990. *Postindustrial possibilities: A critique of economic discourse*. Berkeley: University of California Press; Szafraan, R.F. 1996. The effect of occupational growth on labor force task characteristics. *Work and Occupations* 23: 54–86; Barley, S.R. 1996. *The new world of work*. London: British North-American Research Committee; Hecker, D. E. 2001. Occupational employment projections to 2010. *Monthly Labor Review* 124: 57–84.
- ²⁹ The percentage of employed Americans for 1950 and 1998 are drawn respectively from Table 1 in Barley, 1996, op. cit., and Table 1 in Braddock, D. 1999. Occupational employment projections to 2008. *Labor Review*, 122: 51–77.
- ³⁰ This thesis is articulated by Bluestone, B. & Harrison, B. 1982. *The deindustrialization of America*. New York: Basic; Aronowitz and DeFazio, 1994, op. cit., Ritzer, G. 1998.

The McDonaldization of society: An Investigation into the changing character of contemporary social life. Thousand Oaks, CA: Pine Forge Press.

³¹ This estimate comes from Hecker, 2001, op. cit.

³² For Padgett's insightful work on the economy and social networks of Renaissance Florence, see: Padgett, J.F. & Ansell, C.K. 1993. Robust action and the rise of the Medici: 1400–1434. *American Journal of Sociology* 98: 1259–1319; Padgett, J.F. & McLean, P. forthcoming. Obligation, risk and opportunity in the Renaissance economy. In *The U.S. economy in historical context* (Ed.) Dobbin, F. New York: Russell Sage Foundation; Padgett, J.F. 2001. Organizational genesis, identity and control: The transformation of banking in Renaissance Florence. In *Markets and Networks* (Eds.) Cassella, A. James, R. New York: Russell Sage Foundation.

³³ Mark Granovetter has been particularly influential in arguing for the importance of understanding how social relationships underwrite market transactions. See Granovetter, M. S. 1985. Economic action and social structure: The problem of embeddedness. *American Journal of Sociology* 91: 481–510; 1974. *Getting a job: A study of contacts and careers.* Cambridge, MA: Harvard University Press; 1973. The strength of weak ties. *American Journal of Sociology* 78: 1360–1379. This perspective has been central to the emergence of the new field of economic sociology. See: Smelser, N.J. & Swedberg, R. (Eds.). 1994. *The handbook of economic sociology.* New York: Princeton University Press.

³⁴ For Weber, 1968/1922, op. cit., bureaucracy was an advance over traditional forms of organizing. Bureaucracy drove out the inequities of patrimonial systems, creating more predictable and rational societies and opening opportunities based on merit. Those who view bureaucracy as inherently problematic would do well to consider what life was like prior to bureaucracy's emergence as a dominant organizational form.

³⁵ James Coleman has written extensively on the role that the law played in defining the concept of the corporation as an actor, hence laying the philosophical groundwork for an organizational society. See: Coleman, J.S. 1990. *Foundations of social theory.* Boston: Harvard University Press; Coleman, J. 1974. *Power and the structure of society.* New York: W. W. Norton and Company.

³⁶ See Saxenian, A. & Hsu, J. 2000. The Silicon Valley-Hsinchu connection: Technical communities and industrial upgrading. Unpublished paper. Department of Urban Planning. University of California, Berkeley; and Saxenian, A. & Li, W. forthcoming. Bay-to-Bay strategic alliances: Network linkages between Taiwan and U. S. venture capital industries. *International Journal of Technology Management*

³⁷ For a discussion of the concept, benefits, and pitfalls of matrix organizations, see: Galbraith, J.R. 1971. Matrix

organization design. *Business Horizons* February: 29–40; Davis, S.M. & Lawrence, P.R. 1977. *Matrix.* Reading, MA: Addison-Wesley; Allen, T.J. 1986. Organizational structure, information technology, and R&D productivity. *IEEE Transactions on Engineering Management* 33: 212–217; Katz, R. and Allen, T.J. 1985. Project performance and the locus of influence in the R&D matrix. *Academy of Management Journal*, 1: 67–87.

³⁸ Of course organizational life rarely conforms to ideal depictions. Like other engineering-based solutions to organizational problems, the matrix is more elegant on paper than in practice. In a matrix, joint control and ambiguity of authority and responsibility invariably produce conflict and politics. These may be managed to a firm's advantage, but they also produce frustrations that lead some technical professionals to seek alternatives to corporate employment.

³⁹ Retirement options for contractors are complex. Here we only outline the main options. Any working American can set up a traditional or Roth Individual Retirement Account. Contributions are limited to no more than \$3,500 per year and interest or dividends accumulate tax-free until retirement. The amount that can be contributed to an IRA decreases as income rises. Legally recognized self-employed contractors can establish a Keogh plan, which allows contributions of up to \$35,000 per year or 25 percent of income, whichever is less. Incorporated contractors can also set up a Simplified Employee Pension (SEP) – IRA, and then contribute to the plan as their own employer. 401k plans require that the contractor be an employee of a firm that acts as an employer. In short, employment law requires contractors to either incorporate or to work for a firm before they can accrue significant retirement savings that carry tax advantages.

⁴⁰ For an examination of benefits among temporary workers using data from the Current Population Survey, see: Spalter-Roth, R.M., Kalleberg, A.L., Rasell, E., Cassirer, N., Reskin, B.F., Hudson, K., Webster, D., Appelbaum, E. & Dooley, B.F. 1997. *Managing work and family: Non-standard work arrangements among managers and professionals.* Washington, DC: Economic Policy Institute; and Hipple, S.F. & Stewart, J. 1996. Earnings and benefits of workers in alternative work arrangements. *Monthly Labor Review* 119: 46–54.

⁴¹ The Consolidated Omnibus Budget Reconciliation Act of 1985 allows employees who resign or who are terminated to continue to purchase, as individuals, the health insurance provided by their former employer for a period of 18 months after separation. The law was designed to allow workers and their families to have access to health insurance between jobs. Consequently, COBRA benefits are a stopgap option for people who become career contractors.

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