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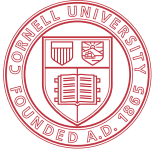
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Dynamic Organizations: Achieving
Marketplace Agility Through Workforce
Scalability

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Abstract

Dynamic organizations (DOs) operate in business environments characterized by frequent and discontinuous change. They compete on the basis of marketplace agility; that is on their ability to generate a steady stream of both large and small innovations in products, services, solutions, business models, and even internal processes that enable them to leapfrog and outmaneuver current and would-be competitors and thus eke out a series of temporary competitive advantages that might, with luck, add up to sustained success over time. Marketplace agility requires the ongoing reallocation of resources, including human resources. We use the term workforce scalability to capture the capacity of an organization to keep its human resources aligned with business needs by transitioning quickly and easily from one human resource configuration to another and another, ad infinitum. We argue that marketplace agility is enhanced by workforce agility because it is likely to meet the four necessary and sufficient conditions postulated by the resource based view (RBV) of the firm – valuable, rare, inimitable, and non-substitutable – if it can be attained. Our analysis therefore concludes by focusing on the two dimensions of workforce scalability – alignment and fluidity – and postulating a number of principles that might be used to guide the design of an HR strategy that enhances both. Throughout the paper, key concepts are illustrated using the experiences of Google, the well-known Internet search firm. Because the analysis is speculative and intended primarily to pique the interest of researchers and practitioners, the paper ends with a number of important questions that remain to be clarified.

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Dynamic Organizations: Achieving Marketplace Agility Through Workforce Scalability

Dynamic organizations (DOs) operate in business environments characterized by frequent and discontinuous change. For them, competitiveness is a moving target, a constant pursuit of proactivity and adaptability in the marketplace, preferably undertaken as a matter of course rather than with great travail. Imagine, as Hamel and Valikangas (2003) posit, a ratio in which the numerator is the number and salience of an organization's strategic maneuvers and the denominator reflects the time, disruption, and expense required to affect those maneuvers. A DO's challenge is to enhance the numerator by constantly attacking the marketplace with a steady stream of customized client solutions, innovative products or services, or creative ways of capitalizing on existing offerings (Brown & Eisenhardt, 1997; D'Aveni, 1994; Ilinitich, D'Aveni & Lewin, 1996; Roberts, 1999), even as it concurrently drives down the denominator. As Hamel and Valikangas (2003: 54) put it:

“The goal is a strategy that is forever morphing, forever conforming itself to emerging opportunities and incipient trends. The goal is an organization that is constantly making its future rather than defending its past. The goal is a company where revolutionary change happens in lightning-quick, evolutionary steps – with no calamitous surprises, no convulsive reorganizations, no colossal write-offs, and no indiscriminate, across-the-board layoffs. In a truly [dynamic] organization, there is plenty of excitement, but no trauma.”

Given these goals, it is not at all surprising that DOs tend to eschew traditional organizational forms and practices as excessively cumbersome and ossified and, alternatively, actively experiment with more nimble and flexible options (Gailbraith, Downey & Kates, 2002). This turn of events has opened up exciting new avenues of investigation for students of business strategy, organizational theory, leadership, and the like (Peterson & Mannix, 2003). So far, though, the field of strategic human resource management (SHRM) is lagging behind. Generally, the DO literature ignores or deals only superficially with people-related issues, while

the SHRM literature has been slow to close the gap (Dyer & Shafer, 1999, 2003; Shafer, Dyer, Kilty, Amos & Ericksen, 2001; Wright & Snell, 1998). This chapter represents a step toward filling the void. It delineates a process whereby a DO might craft a human resource strategy to facilitate the attainment of a sustained competitive advantage. Our main purpose is to draw students of SHRM into the fray by providing a platform for further theoretical and empirical work. An ancillary aim is to provide tentative guidance for human resource strategists and students who are or soon will be wrestling with the realities of a dynamic world.

In a general sense, SHRM is concerned with the contributions that human resource strategies make to organizational effectiveness and the ways in which these contributions are achieved. Most, although clearly not all (e.g., Pfeffer, 1998), of its adherents subscribe to a contingency perspective of the field, which basically rejects the notion of “best practice”, believing instead that superior results obtain when a firm’s human resource strategy is tailored to fit its business strategy, as well as other important contextual features. The contingency view incorporates two fundamental assumptions: (1) various business strategies and contexts require different sets of workforce attributes and (2) different types of HR systems (i.e., combinations of policies, programs, and practices) are required to engender different sets of workforce attributes (Cappelli & Singh, 1992; Schuler & Jackson, 1987). The analytical process facing a theorist, researcher, or practitioner in any given situation, then, involves an analysis of context to identify essential workforce attributes and, then, to devise an HR system that will, if properly implemented, develop those attributes. This is the process followed here.

We begin by delineating the means by which a DO competes in its marketplace – an approach we call marketplace agility – and the organizational competencies it takes to make it work. Based on this analysis, we then propose a new way to conceptualize the notion of workforce attributes – dubbed workforce scalability – and show how it derives directly from the imperatives of marketplace agility and thus has the potential to be a source of sustained competitive advantage in dynamic situations. Following this, we identify nine broad principles

that we believe would, when effectively operationalized, engender workforce scalability. Finally, we readily acknowledge the speculative nature of much of this analysis and suggest a number of questions for HR theorists, researchers, practitioners, and students to ponder in the years ahead.

Marketplace Agility

In turbulent markets competitive advantages are fleeting (D'Aveni, 1994). This does not mean, however that a DO has no hope of succeeding over time. Increasingly firms, as well as scholars, are beginning to explore ways in which a DO can gain a series of temporary competitive advantages that, while they ebb and flow, add up over time to a sustainable competitive advantage (Brown & Eisenhardt, 1997; Ilinitch, et al, 1996; Rindova & Kotha, 2001). This requires marketplace agility; that is, the capacity to be better than actual or would-be competitors at continuously enhancing both dimensions of Hamel and Valikangas's (2003) ratio. We see this at work in consulting and other professional service firms that are particularly adept at the rapid delivery of highly customized client solutions at profitable prices. We see it at work at Google in the form of an endless stream of new business models:

Since its founding, it has repeatedly morphed its business model. Google 1.0 was a search engine that crawled the Web but generated little revenue; which led to Google 2.0, a company that sold its search capacity to AOL/Netscape, Yahoo and other major portals; which gave way to Google 3.0, an Internet contrarian that rejected banner ads and instead sold simple text ads linked to search results; which spawned Google 4.0, an increasingly global entity that found a way to insert relevant ads into any and all Web content, dramatically enlarging the online ad business; which mutated into Google 5.0, an innovation factory that produces a torrent of new Web-based services, including Gmail ... More than likely, 6.0 is around the corner. (Hamel, 2006: A16) [Note: Since this was written, Google has announced that it is even exploring the possibility of building its own high-powered servers and software.]

Marketplace agility is an umbrella business strategy. It describes in broad terms how a DO strives to attain competitive advantages, without delving into the nitty-gritty aspects of its ever-changing markets or business portfolios. Thus, somewhat paradoxically, it provides a stable base for the formation of a supporting human resource strategy. But more is needed, namely the specification of the core meta-competence on which the strategy depends (see Hamel & Prahalad, 1994: 223-233). A core meta-competence is a critical business capability that is formed by bundling or integrating a set of more specific contributing competencies (i.e., mini-processes consisting of particular skills and technologies). Logistics, for example is a core meta-competence for Federal Express, while scheduling and package tracking are two essential contributing competencies.

Essentially, a DO is an ever-changing portfolio of ventures. In pursuit of marketplace agility, the requisite core meta-competence, then, is the capacity to effectively and efficiently steer these ventures in and around a renewal cycle consisting of four contributing competencies: exploration, exploitation, adaptation, and exit. Exploration involves the generation and testing of new ideas. Exploitation is how some of these ideas are transformed into solutions, products, or services to be quickly delivered to the marketplace before competitors catch on and catch up. It is the point at which a DO capitalizes on its temporary competitive advantages to generate revenues. The exploration – exploitation dyad is always a challenge to manage (March, 1991; Meilich, 1997), but is made even more so in dynamic situations by the barrage of disruptive forces emanating from competitors and other sources. Thus the need for a third contributing competency: adaptation – the process of spotting emerging threats early and mounting immediate responses as necessary (Haeckel, 1999; Lewin & Volberda, 1999). Even a DO that is superb at adapting, however, knows that nothing is forever, so it must be not only willing, but also able to abandon unpromising ideas and even to cannibalize its own marketplace offerings on a timely basis without hesitancy or remorse (Foster

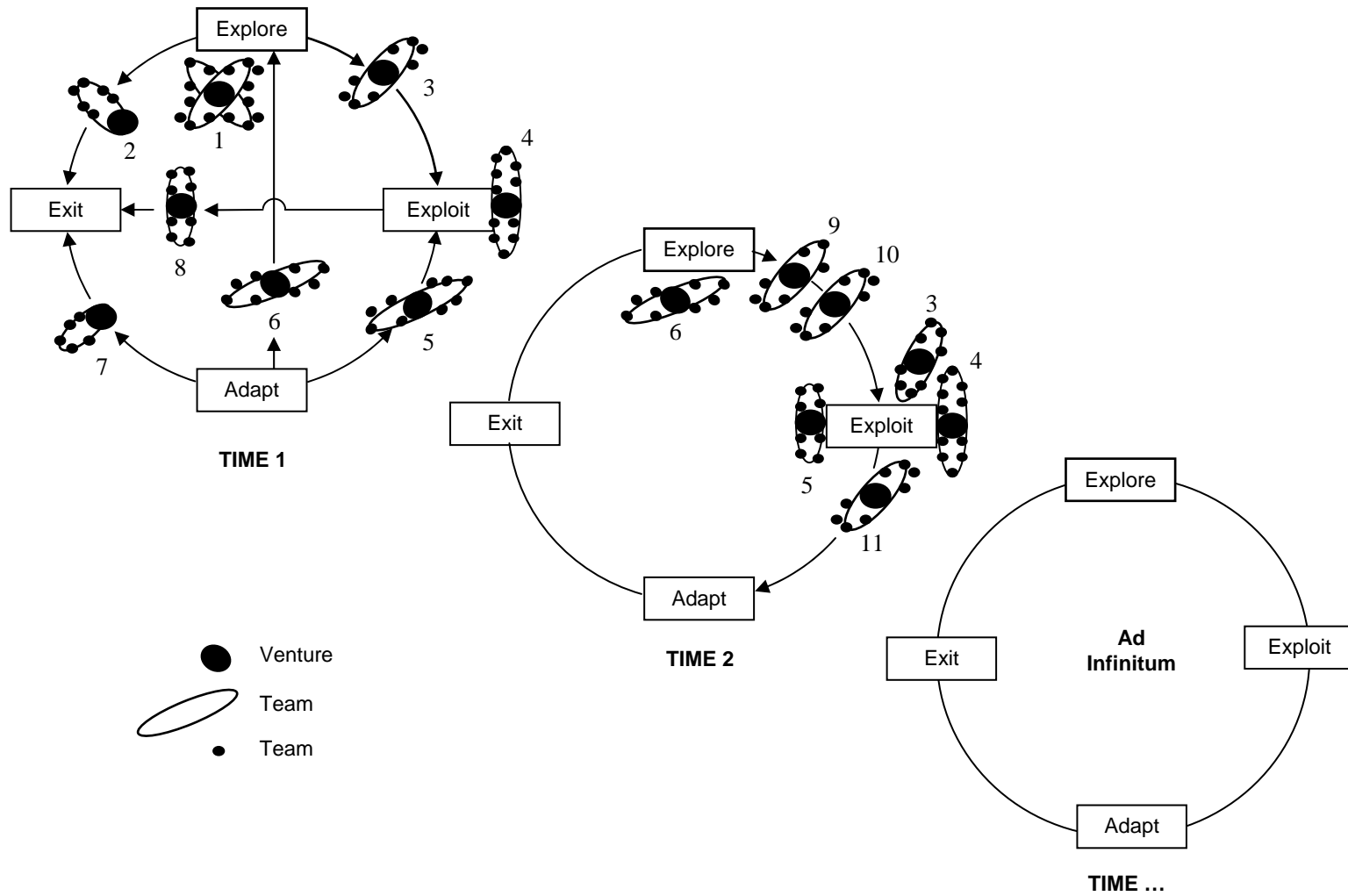
& Kaplan, 2001; Horn, Lovallo, & Viguerie, 2006). This is the fourth contributing competency: exit.

Figure 1 shows a fictional DO that at Time 1 consisted of eight ventures spread around the renewal cycle. By time 2, this number had dropped to seven ventures, four survivors from Time 1 – all of which had transitioned to different places on the cycle – and three new ones. Snapshots taken at Times 3, 4, and so on would, of course, reveal very different patterns. Is this firm demonstrating the requisite core meta-competence? The answer is “yes” if the portfolios of ventures that exist at various points in time are generating temporary competitive advantages and if the transitions from one portfolio to another are made smoothly and efficiently. The answer is “no” if, for example, the firm fails to generate enough new ideas that can be exploited in the marketplace. Or if it does a bad job of exploiting its opportunities and fails to adapt or exit on a timely basis. Or if it gets blind-sided by its competitors too often and cannot sustain ventures long enough for them to pay off. And so on.

Google provides an example of a firm that appears to have mastered this core meta-competence. It constantly generates and experiments with innovative ideas, all of which are subjected to rigorous testing and a few of which (as noted above) actually see the light of day. Further, for an innovation machine, the company has thus far been surprisingly adept at exploiting its services (Vogelstein, 2004). Its technology now powers over half of the Web searches in the U.S. and a host more world-wide. Less well known, perhaps, is the fact that the company currently captures about 20 percent of the \$10 billion spent annually on online advertising. It also has a number of smaller ventures – the aforementioned GMail, along with others such as Google News, Google Maps, and Froogle – contending for market share.

Not that it has been all smooth sailing. The company has had to do its fair share of adapting over the years as new competitors emerged, technologies evolved, and governments restricted its operations (e.g., in China). Currently, it is attempting to fend off the enervated efforts of two formidable competitors – Yahoo!, which is improving its capacity to tap into its

FIGURE 1
A DOs Meta-Competence



extensive data base of customers to provide highly personalized searches and advertising, and Microsoft, which is integrating searches into Windows (Elgin, 2004; Vogelstein, 2004). Whether Google can out-adapt and out-exploit these much larger rivals over the long haul remains to be seen. If not, it could be forced to exit the search and related businesses. This is a company that is justifiably famous for its “Darwinian environment in which every idea must compete on its merits, not on the grandeur of its sponsor’s title” (Hamel, 2006: A16), but whether this hard-nosed approach would prevail should the attacks on its core businesses begin to succeed in a big way is an interesting question indeed. What we can say is that thus far anyway Google has succeeded in generating a series of temporary competitive advantages, parlaying these into a sustained competitive advantage, and making money. Its revenues have grown rapidly over the years and its operating margin currently exceeds 60 percent, higher even than Microsoft’s in its prime (Hamel, 2006).

As Figure 1 illustrates, operationalizing a DO’s core meta-competence clearly involves endless reallocations of resources. The keys to success lie in resource alignment and resource fluidity. The former prevails when key resources are focused precisely on the ventures and activities that hold the greatest promise of success in the marketplace, while the latter means that resource transitions are being made quickly, easily, and at a reasonable cost. Ongoing resource alignments enhance the numerator of Hamel and Valikangas’s (2003) ratio, while resource fluidity facilitates (but does not guarantee) ongoing resource alignments, even as it also drives down the denominator of the ratio. In this formulation, a resource is any value-producing asset that a DO can bring to bear. Common examples include physical resources (e.g., favorable geographical locations and cutting-edge technologies), financial resources (e.g., ready cash and easy access to cheap credit), organizational resources (e.g., a unique design or salubrious culture), and the one of interest to us here: human resources.

Workforce Scalability

Workforce scalability is the term we use to capture the capacity of an organization to keep its human resources aligned on an ongoing basis by constantly transitioning from one human resource configuration to another and another, ad infinitum, on a timely basis and in a seamless way (Dyer & Ericksen, 2005). At this point, we expand on this definition and, using basic concepts from the resource based view (Barney, 1991), show how the construct helps to deliver a sustained competitive advantage in dynamic situations.

Workforce Scalability Defined

Workforce scalability indicates the evolution of human resource configurations on four dimensions: headcount, competence mix, deployment pattern, and employee contributions. Headcount refers to full-time equivalents (fte's). It is a function of number of employees (including regular and various types of contractual workers) times the number of hours these folks work. Competence mix reflects how employees' knowledge and skills are distributed, while deployment pattern reflects their assignments across organizational and/or physical locations. Employee contributions relate to the organizational value of the tasks they are performing. Refer again to Figure 1. As this fictitious firm adds and subtracts ventures and shifts teams and team memberships over time, imagine the amount of change this entails in fte's, competence requirements, assignments, and the ways in which employees add value. Successfully meeting these ever-changing requirements is what workforce scalability is all about.

As the preceding discussion suggests, workforce scalability consists of two components: alignment and fluidity. In the SHRM literature, workforce alignment (or fit) exists when a firm's extant human resource configuration is in synch with the configuration required by its business strategy (e.g., Cappelli & Singh, 1992; Schuler & Jackson, 1987) or, put differently, when a firm has the right number of the right types of people in the right places at the right times doing the right things right (Dyer and Ericksen, 2005; Dyer & Holder, 1988). Notice that SHRM's notions

of alignment and right correspond to the resource based view's notion of valuable.

Conceptually, they all refer to a workforce's capacity to contribute to the creation and implementation of successful strategic thrusts in the marketplace. Notice, too, that for a DO workforce alignment is a moving target. Given ever-changing circumstances, a workforce configuration that is aligned at one point in time is unlikely to remain so for very long (refer again to Figure 1). This, of course, ups the ante on workforce alignment and makes workforce fluidity all the more crucial.

Workforce fluidity refers to the speed and ease with transitions are made from one aligned human resource configuration to another and then another and another, ad infinitum. As suggested earlier, workforce fluidity helps a DO achieve workforce alignment (Wright & Snell, 1998), even as it also serves to reduce the denominator in Hamel and Valikangas's (2003) ratio by minimizing the friction and pain otherwise associated with constant adjustments in headcounts, competence mixes, deployment patterns, and employee contributions.

Workforce Scalability and Sustained Competitive Advantage

For a would-be DO, we propose, workforce scalability is a resource with the clear potential to help generate a series of temporary competitive advantages and, over time, a sustained competitive advantage. This is because, for any given firm, workforce scalability is likely to meet all four of the necessary and sufficient conditions postulated by the resource based view of the firm (Barney, 2001). The baseline requirement is that a resource be valuable, which by definition (and thus tautologically – see the Priem and Butler [1991] and Barney [1991] debate), workforce scalability is. But to generate even temporary competitive advantages a valuable resource also has to be rare. It would seem that workforce scalability is, although the available evidence is piecemeal and sparse. In a study of 196 small businesses, Ericksen (2006) found that in general workforce alignment was relatively rare, but that it was particularly so among firms operating in comparatively dynamic environments. Further, in a recent survey among 300 large U.S. and European companies (alas undifferentiated with respect to

dynamism), respondents rated the fluidity of their firms on a scale of 1 (very flexible) to 5 (very rigid). The mean response was 3.38 and only 15% rated their firms 1 or 2 (Beatty, 2005).

Even if workforce scalability is a valuable and rare resource, this is insufficient for it to produce a sustained competitive advantage. For this, it also must be inimitable and non-substitutable. Inimitability stems from a confluence of causal ambiguity and social complexity (Reed & DeFillippi, 1990). The former makes it difficult for competitors to ascertain just how a DO achieved workplace scalability, while the latter, because of path dependence, makes it unlikely that an approach that works in one firm will work the same way in others. Logic, as well as the aforementioned data pertaining to rarity, suggests that workplace scalability is indeed difficult for competitors to copy, but we know of no evidence directly relating to this point. Further, some firms, such as IBM, are attempting to use technology to obviate the need for some elements of workforce scalability, especially geographic mobility, by bringing work to people rather than doing things the other way around (e.g., Hamm, 2005). The extent to which this might negate the capacity of workplace scalability to generate sustained competitive advantage, however, remains to be determined.

There is a small amount of evidence to suggest that the components of workforce scalability are associated with firm performance, especially in dynamic situations. In the small business study noted above, Ericksen (2006) focused part of his analysis on firms that had attained aligned workforces and found that among those operating in relatively stable external environments the average annual increase in revenues was 18%, slightly above the sample average. Among those operating in volatile circumstances (where as noted above workforce alignment was rarer), the comparable sale growth figure was 25%. Other studies have documented how ineffectively many firms handle various aspects of workforce fluidity – e.g., the accession of new recruits (Penrose, 1959), the internal allocation of employees (Henderson & Clark, 1990; Tripsas, 1997), and the release of non-performing and redundant employees (Cascio, 2002) – and the resulting deleterious effects on organizational adaptation and change.

A recent case study, summarized in Figure 2, illustrates how Yahoo's! ability to achieve elements of workforce scalability contributed to its attainment of competitive advantage over Excite in the early years of the fast-paced world of Web-based search (Rindova & Kotha, 2001).

What remains to be done, however, is research that focuses on the full scope of workforce scalability. There is a need for studies that include both workforce alignment and workforce fluidity (all four dimensions) and examine not only the relationships between them, but also the issues of value, rarity, inimitability, and non-substitutability directly. Then there is the "so what?" issue. Do DOs that manage to attain relatively high levels of workforce scalability also realize temporary and/or sustained competitive advantages in the marketplace and achieve superior financial results?

Our analysis and the limited data available suggest that for any given DO attaining a relatively high level of workforce scalability is likely to be a work in progress for some time to come. Currently no one seems to know for sure how to do it and anyway, given the nature of the world today, the bar is likely to keep on rising. At this point, we use what is known or can reasonably be surmised to make some suggestions about how to get started.

FIGURE 2
Workforce Scalability as a Source of Sustained Competitive Advantage

Between 1994 and 1999, Yahoo! And Excite struggled for competitive advantage in the nascent web search business as it transforms from (1) pure search to (2) becoming an internet destination to (3) becoming an internet portal.

	Search Engine: 1994 - 1996	Internet Destination Site: 1996 - 1997	Internet Portal: 1998 - Early 1999
Competitive Advantage	Search	Search capability Content creation Brand	Search capability Interactive services Brand
Workforce Alignment	<p>Yahoo! Builds staff of 80 "surfers" – to 50% of total staff</p> <p>Excite relies on technology And small editorial staff</p>	<p>Yahoo! adds "surfers," but percentage drops to 21% of total staff. "Surfers" shift focus to content and partnering through "producer teams." Marketing and sales people constitute 50% of staff.</p> <p>Excite lays off ½ of editorial staff – relies on partners for content. Adds business development personnel to manage partnerships.</p>	<p>Yahoo! completes series of acquisitions to gain logistics capabilities</p> <p>Excite merges with @Home</p>
Workforce Fluidity	<p>Yahoo! Puts effort into acquiring and developing a skilled pool of talent</p> <p>Excite buys its talent, almost as an afterthought</p>	<p>Yahoo!'s talented "surfers" able to switch focus and activities. Company has capability to acquire and integrate marketing and sales staff.</p> <p>Excite manages shift in focus, but only by hiring and firing</p>	<p>Yahoo! develops a successful process for integrating talent brought in through acquisitions</p> <p>Excite's best people mostly choose not to join @Home</p>
The Bottom Line	<p>"[Excite was] very much trying to duplicate Yahoo! Except that Yahoo! Actually had a staff" (A former employee).</p>		

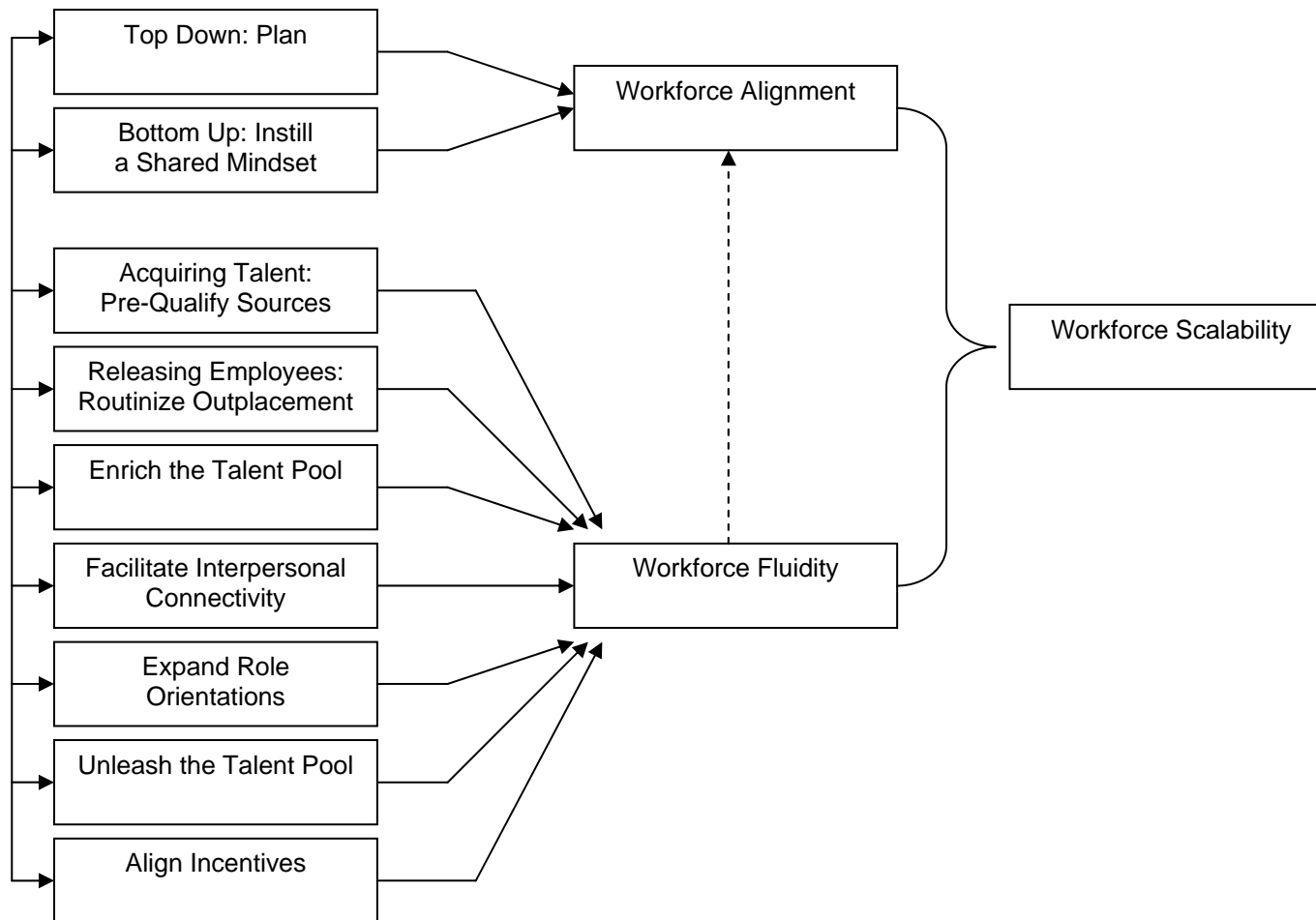
Pursuing Workforce Scalability

Almost certainly an all-out assault on workforce scalability requires the formation of a facilitative organizational context consisting of a highly adaptable organizational infrastructure and a stewardship approach to leadership, as well as a supportive HR system (Dyer & Shafer, 2003). Given our focus (and space limitations), we bypass infrastructure and leadership issues to home in on the development of a supportive HR system. Specifically, we identify a set of key principles that can be used to guide the choice and design of various HR activities (staffing, training and development, work design, compensation, etc.) Focusing on a few key principles rather than a larger set of HR activities not only offers parsimony, but also allows for equifinality by leaving the door open for each DO to search for the specific package of activities that works best in its particular situation (Becker & Gerhart, 1996).

We consider a principle key if it meets three criteria. First, it has to be practical, meaning that managers and/or workforces have to be able to operationalize it. Second, there has to be a good reason to believe that, if successfully operationalized, it will significantly enhance workforce scalability (i.e., workforce alignment, workforce fluidity, or both). Third, each principle should support complementarity; that is, its operationalization should increase the likelihood that positive payoffs will obtain from operationalizing the remaining principles in the set (Milgrom & Roberts, 1995) – or in SHRM terms the principles should show the potential for horizontal fit or synergy (Wright & McMahan, 1992; Delery & Shaw, 2001).

Figure 3 maps the course to be followed. Attention is focused initially on workforce alignment, then on workforce fluidity, and ultimately on tying the pieces together. (Unfortunately, our Google illustration trails off a bit at this point since the available information on its approach to HR is limited.)

FIGURE 3
Pursuing Workforce Scalability:
Guiding Principles



Pursuing Workforce Alignment

A DO's goal here, it will be recalled, is always to have the right numbers of the right types of people in the right places at the right times doing the right things right. The challenge, in the face of ever-changing business strategies and maneuvers, is to avoid situations in which the organization has too few or too many employees or has other than minor competence mismatches, person-task misallocations, and misdirected behaviors.

Guiding Principles

In general, as Figure 3 shows, a DO can pursue this elusive goal in two ways – from the top-down or from the bottom-up.

From the Top Down: Plan. The integration of HR planning with business planning is the classical approach to workforce alignment that has been talked about, albeit not necessarily practiced, for many years (Dyer, 1986; Bechet, 2002). Unfortunately, it has its limitations for a DO because the unpredictability of the business environment makes it likely that most business plans will turn out to fall well short of prescient. The exercise can still be helpful as a learning experience and communication device and specific, short-range plans may well prove to be on the mark, but overall it is essential that a DO learn to treat formal business plans and their HR offshoots as at best suggestive, subject to change at a moments notice. In brief, for a DO the top-down approach, while perhaps helpful, is clearly insufficient assure ongoing workforce alignment.

From the Bottom Up: Instill a Shared Mindset. The complementary approach is to attack the issue from the bottom up. The key principle: Instill a shared mindset. That is, do everything possible to assure that all employees are fully prepared to act and react as circumstances change – to quickly line up behind new strategic maneuvers emanating from the top down or, even better, to sense environmental shifts early and initiate salient strategic moves on their own (Mintzberg and Waters, 1985). This requires a shared mindset among employees (Ulrich & Lake, 1990). For a DO, the challenge is to attain tacit coherence around the

organization's purpose and processes in a way that actively encourages and facilitates ongoing workforce alignment. The two key sub-principles are: Create a common cause and embed contextual clarity.

The creation of a common cause requires the articulation of an organizational vision or mission that is both aspirational and inspirational – as Google has done with its well-known mantra “To organize the world’s knowledge” – and then clearly communicating it over and over in many different ways. The idea is to keep employees focused and fired up by making it perfectly clear what the firm exists to do and why this is a good thing for it, them, and society. But employees also need to know where they fit in, which is why it is also essential to embed contextual clarity. This process begins with the articulation of the firm’s business model(s) in a way that paints a complete picture of its environment, how it operates, what it takes for it to succeed, and the crucial role that employees play in the grand scheme of things. It continues with efforts to assure that the business model is clearly understood and consensually internalized by all employees (potential techniques include surround communication, open-book management, and commitment management – see Dyer & Shafer, 2003; Galbraith, et al, 2002).

Driven by a common cause and informed with contextual clarity, a DO's employees are well positioned to appreciate and understand the reasons behind sudden changes in business plans and to adapt accordingly. Equally important, they also have the wherewithal required to sniff out significant environmental changes on their own, to use this information to make timely and appropriate adjustments in business plans or to instigate new ones, and to do whatever they need to do to assure they are realigned with the new business situation.

Pursuing Workforce Fluidity

The goal of workforce fluidity is to assure that all employee moves and behavioral adjustments, whether they involve a single individual or a group of employees, occur rapidly, seamlessly, and efficiently. A step in the right direction, as Figure 3 shows, is to do a good job of operationalizing the foregoing principles. Flexible planning and a shared mindset grease the

skids of workforce transitions. But there is more to it than this. Additional principles pertain to the facilitation of external staffing (i.e., the addition and removal of people) and internal transitions.

Evidence suggests that firms often stumble when trying to use external staffing and internal transitions simultaneously (Anderson, 2001; Brockner, 1992; Charness & Levine, 2002; Penrose, 1959). In the small business study cited earlier this was indeed the case for firms operating in comparatively stable environments, but not for those operating in comparatively dynamic environments (Ericksen, 2006). Among the latter, holding the effects of workforce alignment constant at high levels, firms that used both approaches concurrently increased their revenues by 34% annually, whereas those that shied away from this two-pronged approach had average annual revenue growth of about 20%. While hardly definitive, these data nonetheless suggest that for a DO the capacity to simultaneously employ external staffing and internal transitions provides essential complementarity or synergy (Dyer & Ericksen, 2005). This is the premise on which the following analysis proceeds.

External Staffing: Guiding Principles

External staffing is usually thought of as providing headcount flexibility (Cappelli & Neumark, 2004). But it is also used to make adjustments in competence mixes, deployment patterns, and even contributions (e.g., by systematically replacing low performers with high performers). In DOs, where constant adaptation is a way of life, it is essential that these transitions not only enhance workforce alignment, but also occur quickly and smoothly. To these ends, we suggest the following principles.

Acquiring Talent: Pre-qualify Sources and Individuals. Organizations acquire talent in many different ways. First thoughts usually turn to the recruitment of regular employees. An increasingly popular alternative, however, is the use of contract employees of various types, and a few firms even partner with other organizations to gain the temporary use of employees who have critical competences or are strategically located. Clearly, a great many considerations go

into determining which source is best – that is, most likely to enhance workforce alignment – and when (Matusik & Hill, 1998). At issue here, however, is fluidity, which means the speed and ease with which various sources can be tapped. This requires some up-front work. Consider, for example, the considerable effort that many firms put into maintaining effective relations with selected universities in attempts to streamline and improve the process of recruiting new college grads (Heneman & Judge, 2005: 219-221). There is every reason to believe that a DO should apply the same principle when it comes to other sources of talent – especially since these sources usually have to be tapped more quickly and less regularly. The process is well known: pre-qualify those sources with the greatest potential for quickly producing highly qualified candidates and then do what it takes to establish long-term and close working relationships with them, partly to achieve priority in their queues and partly to assure that they know enough about the firm to do an effective job of pre-qualifying candidates before they are referred. For a DO, the process should extend beyond typical recruitment sources. Stories abound, for instance, of the ways in which the social networks formed in Silicon Valley are used to pre-identify and pre-qualify individuals with certain competences, and the ease with which these folks move around from company to company as their needs for talent ebb and flow (see, e.g., Finegold, 1999).

Releasing Employees: Routinize Outplacement. The departure of employees is a tougher nut to crack (except of course in the case of temporary employees). There are two issues here. One involves the termination of employees whose competences have become obsolete or who otherwise are no longer doing the job. The other involves layoffs of employees as circumstances change and they are no longer needed. Both require the routinization of the outplacement process, which involves a tough balancing act. A common tendency among employers is to delay termination and layoff decisions too long. To avoid this it is necessary to monitor employee performance and staffing patterns on an ongoing basis and to respond to red flags immediately. It is also necessary to establish a strong norm that says, on the one hand, the organization will take every reasonable step to avoid layoffs, but, on the other hand, there

are no guarantees. None of this is likely to work, though, unless the firm has a well-oiled outplacement process, probably in partnership with an external firm, that provides thorough counseling, extensive job search assistance, and a generous severance package and does so in a way that employees perceive as fair and just. Studies suggest that the treatment received by laid off and terminated employees has a significant impact on survivors' willingness to adapt to future organizational changes and on their subsequent job performance (e.g., Brockner, Konovsky, Cooper-Schneider, Folger, Martin & Bies, 1994; Naumann, Bies & Martin, 1995).

Internal Transitions: Guiding Principles

Theory and research suggest that internal transitions – whether self- or organizationally initiated – are more likely to occur when employees individually and collectively have the capability (C) required to make the moves and adjustments, as well as the unfettered opportunity (O) and desire or motivation (M) to do so. In a DO, we propose, C is enhanced by operationalizing two principles – enrich the talent pool and facilitate interpersonal connectivity – O is increased by operationalizing two principles – expand role orientations and unleash the talent pool – and M is facilitated by operationalizing a single principle – align incentives (in addition to the motivation provided by the firm's mission statement and the intrinsically motivating aspects of expanded opportunities).

Enrich the Talent Pool. A DO needs employees who possess broad competence profiles and behavioral repertoires (Wright & Snell, 1998). The process of enriching the talent pool begins with the selection of employees for both diversity and fit. Diversity here refers not only to race and gender, but also to the backgrounds, experiences, knowledge, and skills that new recruits bring to the firm. The search is for employees who, individually and collectively, bring a variety of perspectives, as well as foundational aptitudes on which they can build over time (Wright & Snell, 1998). At the same time, somewhat paradoxically, a DO must screen for cultural fit to find employees whose personality traits and attitudes indicate a preference for change over stability and proactivity over passivity (Unsworth & Parker, 2003). Consider

Google's hiring process which has been described as "... grueling ... akin to a Mensa test [that] values nonconformity nearly as highly as genius [and where] preference is given to candidates who have weird avocations and out-of-the-ordinary experiences" (Hamel, 2006: A16).

Once the right types of employees are on board, enriching the talent pool becomes a matter of fostering serial incompetence. "In the face of change", Godin (2000) reminds us, "the competent are helpless". Competent employees are those who are an inch wide and a mile deep. They excel at applying sharply honed techniques over and over, but resist change because it threatens to destroy their identity. They are deadly in a DO. Serial incompetents, on the other hand, are employees who could become competent in usual sense, but instead regularly choose to experience temporary periods of incompetence, treating them as essential investments in staying one step ahead in an ever-changing world. A DO needs and needs to nurture serial incompetents. This involves making heavy investments in cutting-edge training and development, as well as providing unwavering support for employees who move from opportunity to opportunity in pursuit of smart risks that sometimes pay off in a big way, but always result in highly valuable future-oriented learning even when they fail (McGregor, 2006; Pascale, Millemann & Gioja, 2000: 250-257).

Facilitate Interpersonal Connectivity. Rapid redeployment and spontaneous collaboration with ever-evolving groups of colleagues require plenty of social grease. This comes from facilitating interpersonal connectivity to build social capital – the stock of meaningful relationships that foster and are fostered by high levels of trust and cooperation among employees (Nahapiet & Ghoshal, 1998) – which makes it easy for them to openly share information about where and when talent is needed and who does and does not possess the requisite competences and work ethic, as well as to dispense with preliminaries and get right to work when new teams are formed. At Google, for example, there are hundreds of project teams, all with their own Web sites to provide up-to-date information on the status and prospects of various ventures (Hamel, 2006).

Of course, there is nothing easy about facilitating interpersonal connectivity. Broadly, it involves (in addition to instilling a common mindset) breaking down barriers that inhibit communication in typical organizations, such as beliefs that knowledge is power (and thus should be hoarded) and the formation of sub-cultures and cliques, while building up infrastructures that facilitate communication, such as smaller units (see Gladwell, 2000: Chapter 5), communities of practice, open-plan offices (Becker, 2000; Conlin, 2006), and state-of-the-art organizational intranets (Hyatt, 2006). It also involves enhancing opportunities for small, rotating groups of employees to get together on a social basis (e.g., at off-site training programs or even Friday afternoon “beer busts” of the type popularized in Silicon Valley).

Expand Role Orientations. Opportunity (O) in a DO stems in part from expanding role orientations so that few, if any assignments or tasks seem out of bounds. One way to do this is through discretionary-based work design (Dyer & Shafer, 2003). In most organizations, jobs are defined in terms of a litany of tasks and responsibilities and the ubiquitous add-on “other duties as assigned”. Discretionary-based work design is quite different. Instead of “other duties as assigned”, it emphasizes “other duties as assumed”. That is, it specifies only a minimal core of required tasks and responsibilities, and then opens up a maximally expansive zone of discretion within which employees are expected to take initiative in determining what needs to be done and then finding ways to get it done. Employees are thus encouraged to think broadly about the organization and their work and to be constantly on the lookout for new challenges, as well as new ways of accomplishing familiar tasks. There is synergy here; expanded role orientations help to enrich the talent pool even as an enriched talent pool (imbued with a shared mindset) is ideally suited to take full advantage of expanded role orientations.

Unleash the Talent Pool. Expanded role orientations focus primarily on making adjustments without employees changing roles. Unleashing the talent pool expands the realm of opportunity (O) further. It involves crushing the constraints that limit the free flow of talent from role to role or activity to activity. At Google, for example, all 1,900 employees are expected

to “boldly go where no one has gone before” and all are strongly encouraged to spend up to 20% of their time working on off-budget, out-of-scope projects (Stross, 2004; Hamel, 2006). Unleashing the talent pool requires constant attention because most organizations are imbued with a myriad of factors that, while perhaps implemented for understandable reasons, have the unintended effect of creating turf battles over resources, including human resources. Common culprits include: centralized decision-making, narrowly focused performance goals, rewards that are based on unit rather than organizational performance, and budgets with no flexibility (see Ashkenas, Ulrich, Jick & Kerr, 1995: Chapters 4 & 5). These, of course, have to go. In addition, though, to really attain a free flow of talent it is necessary to establish open auctions in which managers openly bid for the employees they need, while employees freely decide when and where to go (Hamel, 2000). This has the effect of making talent an organizational rather than territorial resource.

Align Incentives. Given plenty of capability (C) and opportunity (O), employees still need to be motivated (M) to make essential moves quickly and easily. This brings us to the issue of incentives. Baseline requirements for a DO, it would seem, are, first, to pay all employees (not just executives) well above prevailing market rates in hopes of encouraging the attraction and retention of the very best talent and, second, to base a significant part of this lavish pay on organization-wide results (e.g., profit-sharing) in an effort to keep employees focused on the big picture. Beyond these steps, it is necessary to eschew rewards that discourage employee movements and adjustments, while emphasizing monetary and non-monetary returns that encourage these behaviors. In part, this means avoiding incentives that focus on narrow criteria such as team or unit performance, since these tend to encourage managers to hoard talent and employees to avoid taking even smart risks. It also means creating broad pay ranges that align with the notion of discretion-based work design and provide room for employees to enhance their pay without constantly fretting about getting promoted. Further, it means adopting some variation of skill-based pay to encourage the pursuit of serial

incompetence. And finally, it means taking the radical step of utilizing peer evaluations as input into decisions about individual performance-based bonuses or non-cash awards and, if offered, individual merit pay. Generally, supervisors make such decisions without much, if any, peer input. This creates difficulty in DOs, however, because extensive employee movement limits supervisors' opportunities to observe the performance of their direct reports. Peers, on the other hand, know who among them move quickly and easily to new and appropriate assignments, readily assume multiple roles, rapidly ramp up to speed in new situations, and make significant contributions to organizational results.

Where To From Here?

A DO operates in a world where shift happens, so sustained competitive advantage is hard to come by. Success depends on the ability to attain and sustain marketplace agility by simultaneously attacking both the numerator and denominator of Hamel and Valikangas's (2003) ratio on an ongoing basis. This means continually besting competitors with a series of superior solutions (as some professional service firms do) or products, services, or business models (as Google has done), and doing so with an absolute minimum of organizational disruption and expense. To pull this off, we suggest, requires a DO to develop the capacity to juggle a constantly evolving portfolio of ventures each of which may traverse as many as four (not necessarily successive) contributing competency areas: exploration, exploitation, adaptation, and exit. This, in turn, requires an unrelenting focus on both the alignment and fluidity of the firm's critical resources, including its human resources.

To this end, we suggest that a DO strive to attain workforce scalability – that is, workforce alignment coupled with workforce fluidity with respect to headcount, collective competences, deployment patterns, and contributions. Workforce alignment is all about having the right number of the right types of people in the right places at the right times doing the right things right. Workforce fluidity prevails when every employee move and behavioral adjustment, whether involving a single individual or a group of employees, occurs rapidly, seamlessly, and

efficiently. To attain these goals we propose a set of nine principles that, when properly operationalized, should do the job. Pursuit of workforce alignment requires the implementation of formal HR planning, done with a degree of humility sufficient to encourage and facilitate ongoing adjustments as necessary by a workforce that shares a common mindset consisting of devotion to the firm's vision and a clear understanding of how the organization operates and what each member of the workforce can do to assure that it succeeds. Pursuit of workforce fluidity involves paying close attention to both external staffing and internal transitions. To enhance the fluidity of external staffing it is necessary on the input side to pre-qualify sources of applicants and even the applicants themselves and on the output side to routinize outplacement processes. The fluidity of internal transitions is promoted by simultaneously developing the capability (C), opportunity (O), and motivation (M) of employees to move and adapt as circumstances require. C is enhanced by enriching the talent pool and facilitating interpersonal connectivity, O by expanding role orientations and unleashing the talent pool, and M by aligning incentives.

Obviously, our analysis and prescriptions rest on a rather sparse empirical base, supplemented with a fairly large dose of interpretation. Our hope, though, is that the exercise is sufficient to pique the interest of SHRM theorists, researchers, practitioners, and students to the point of constructive collaborations aimed at further clarifying both the process and content of HR strategy-making in DOs. Potentially important questions to address include, but certainly are not limited to the following:

- Are DOs different enough from other organizations to justify attempts to design HR strategies just for them? Or, at the other end of the scale, is each DO so unique that it is impossible to generalize across them when it comes to designing an HR strategy? In other words, is the concept of marketplace agility useful as a basis for forging HR strategy?

- Does the conception of DOs as bundles of ventures square with reality? If so, does this mean that the core meta-competence for a DO is really the capacity to successfully juggle these ventures as they move through the renewal cycle in varying sequences and at their own paces? If so, does it follow from this that a major operational imperative for a DO is to drill down on the issues of resource alignment and resource fluidity?

- Typically, SHRM theory and research depicts the “black box” between business strategy and HR strategy in terms of employees’ skills and on-the-job behaviors or performance. We have suggested that it makes more sense to use the concept of workforce scalability, especially when studying DOs. Does this seem to make conceptual sense? Why or why not?

- SHRM theorists and researchers pretty much agree that the alignment of human resources with a firm’s business strategy is a route to attaining sustained competitive advantage. But they are at odds as to whether the key lies in the alignment of the variables in the “black box” – here workforce scalability – or of the components of the HR system. We align with the former view. Again, does this seem to make conceptual sense? Why or why not?

- We propose nine principles to drive the formation of an HR system to keep a workforce constantly aligned and increasingly fluid. Are they all necessary? Collectively, are they sufficient to do the job? What different approaches, if any, would you suggest that a DO try and SHRM researchers therefore study?

References

- Anderson, E.G. (2001). The nonstationary staff-planning problem with business cycle and learning effects. *Management Science*, 47: 817-832.
- Ashkenas, R., Ulrich, D., Jick, T. & Kerr, S. (1995). *The Boundaryless Organization*. San Francisco, CA: Jossey-Bass Publishers.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17: 99-120.
- Barney, J. (2001). Is the resource based "view" a useful perspective for strategic management research? Yes. *Academy of Management Review*, 26: 41-57.
- Beatty, R. (2005). *Workforce Agility: The New Frontier for Competitive Advantage*. New York: PriceWaterhouseCoopers LLP. (White Paper)
- Bechet, T. (2002). *Strategic Staffing*. New York: AMACOM.
- Becker, F. (2000). Integrated portfolio strategies for dynamic organizations. *Facilities*, 18: 411-420.
- Becker, B. & Gerhart, B. (1996). The impact of human resource management on organizational performance: Progress and prospects. *Academy of Management Journal*, 39: 779-801.
- Brockner, J. (1992). Managing the effects of layoffs on survivors. *California Management Review*, 24: 9-28.
- Brockner, J., Konovsky, M., Cooper-Schneider, R., Folger, R., Martin, C. & Bies, R. (1994). Interactive effects of procedural justice and outcome negativity on victims and survivors of job loss. *Academy of Management Journal*, 37: 397-409.
- Brown, S. & Eisenhardt, K. (1997). The art of continuous change: Linking complexity theory and time-paced evolution in relentlessly shifting organizations. *Administrative Science Quarterly*, 42: 1-35.
- Cappelli, P. & Neumark, D. (2004). External job churning and internal flexibility: Evidence on the functional flexibility and core-periphery hypothesis. *Industrial Relations*, 43: 148-182.
- Cappelli, P. & Singh, H. (1992). Integrating strategic human resources and strategic management. In D. Lewin, O. Mitchell & P. Sherer (Eds), *Research Frontiers in Industrial Relations and Human Resources*: 165-192. Madison, WI: Industrial Relations Research Association.
- Cascio, W. (2002). Strategies for responsible restructuring. *Academy of Management Executive*, 16: 80-92.
- Charness, G. & Levine, D. (2002). Changes in the employment contract: Evidence from a quasi-experiment. *Journal of Economic Behavior and Organization*, 47: 391-406.
- Conlin, M. (2006). Square Feet. Oh, How Square! *Business Week*. July 3: 100-101.

- D'Aveni, R. (1994). *Hypercompetition: Managing the Dynamics of Strategic Maneuvering*. New York: Free Press.
- Delery, J. & Shaw, J. (2001). The strategic management of people in work organizations: Review, synthesis, and extension. In G. Ferris (Ed.), *Research in Personnel and Human Resources Management*, Vol 20. Oxford, UK: Elsevier Science.
- Dyer, L. (Ed.) (1986). *Human Resource Planning: Tested Practices of Five Major U.S. and Canadian Companies*. New York: Random House and Human Resource Planning Society.
- Dyer, L. & Ericksen, J. (2005). In pursuit of marketplace agility: Applying precepts of self-organizing systems to optimize human resource scalability. *Human Resource Management*, 44: 183-188.
- Dyer, L & Holder, G. (1988). Toward a strategic perspective of human resource management. In L. Dyer & G. Holder (Eds.), *Human Resource Management: Evolving Roles and Responsibilities*. Washington, DC: Bureau of National Affairs.
- Dyer, L. & Shafer, R. (2003). Dynamic organizations: Achieving marketplace and organizational agility with people. In R. Peterson and E. Mannix (Eds.), *Leading and Managing People in the Dynamic Organization*. Mahway, NJ: Lawrence Erlbaum.
- Dyer, L. & Shafer, R. (1999). From human resource strategy to organizational effectiveness: Lessons from research on agile organizations. In P. Wright, L. Dyer, J. Boudreau and G. Milkovich (Eds.), *Research in Personnel and Human Resources Management*, Supplement 4 (*Strategic Human Resource Management in the 21st Century*): 145-174. Stamford, CT: JAI Press.
- Elgin, B. (2004). Why the world's hottest tech company struggles to keep its edge. *Business Week*: May 3: 82-90.
- Ericksen, J. (2006). *Workforce alignment, human resource scalability, and small business sales growth*. Unpublished Ph.D. Dissertation, Ithaca, NY: Cornell University.
- Finegold, D. (1999). Creating self-sustaining, high-skill ecosystems. *Oxford Review of Economic Policy*, 4: 21-43.
- Foster, R. & Kaplan, S. (2001). *Creative destruction: Why companies that are built to last underperform the market and how to transform them*. New York: Currency.
- Galbraith, J., Downey, D., & Kates, A. (2002). *Designing Dynamic Organizations*. New York: AMACOM.
- Gladwell, M. (2000). *The Tipping Point*. Boston, MA: Little, Brown and Co.
- Godin, S. (2000). In the face of change, the competent are helpless. *Fast Company*, January-February: 230-234.
- Haeckel, S. (1999). *Adaptive Enterprise: Creating and Leading Sense-and-Respond Organizations*. Boston, MA: Harvard Business School Press.
- Hamel, G. (2000). *Leading the Revolution*. Boston, MA: Harvard Business School Press.

- Hamel, G. (2006). Management a la Google. *Wall Street Journal*, August 26: A16.
- Hamel, G. & Prahalad, C.K. (1994). *Competing for the Future*. Boston, MA: Harvard Business School Press.
- Hamel, G. & Valikangas (2003). The quest for resilience. *Harvard Business Review*, September: 52-63.
- Hamm, S. (2005). Beyond Blue. *Business Week*: April 18: 68-76.
- Henderson, R. & Clark, K. (1990). Architectural innovation: The reconfiguration of existing product technologies and the failure of established firms. *Administrative Science Quarterly*: 35: 9-31.
- Heneman, H. & Judge, T. (2005). *Staffing Organizations*. New York: McGraw-Hill Irwin.
- Horn, J.T., Lovullo, D.P., & Viguerie, S.P. (2006). Learning to let go: Making better exit decisions. *The McKinsey Quarterly*, 2: 2-8.
- Hyatt, J. (2006). The soul of a new team. *Fortune*, June 12: 134-141.
- Ilinitch, A., D'Aveni, R. & Lewin, A. (1996). New organizational forms and strategies for managing in hypercompetitive environments. *Organization Science*, 7: 211-221.
- Lewin, A. & Volberda, H. (1999). Prolegomena on co-evolution: A framework for research on strategy and new organizational forms. *Organization Science*, 10: 519-534.
- March, J. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2: 71-86.
- Matusik, S. & Hill, C. (1998). The utilization of contingent work, knowledge creation, and competitive advantage. *Academy of Management Review*, 23: 680-697.
- McGregor, J. (2006). How failure breeds success. *Business Week*, July 10: 42-52.
- Meilich, O. (1997). The flexibility-efficiency debate: review and theoretical framework. Paper presented at the 1997 Academy of Management Meeting, Boston, MA.
- Milgrom, P. & Roberts, J. (1995). Complementarities and fit: Strategy, structure, and organizational change in manufacturing. *Journal of Accounting and Economics*, 19: 179-208.
- Mintzberg, H. & Waters, J. (1985). Of strategies, deliberate and emergent. *Strategic Management Journal*, 6: 257-272.
- Nahapiet, J. & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23: 243-266.
- Naumann, S., Bies, R., & Martin, C. (1995). The roles of organizational support and justice during layoffs. *Academy of Management Journal*, 38: 89-109.

- Pascale, R., Millemann, M. & Gioja, L. (2000). *Surfing the Edge of Chaos*. New York: Crown Business.
- Penrose, E. (1959). *The Growth Theory of the Firm*. Oxford, UK: Oxford University Press.
- Peterson, R. & Mannix, E. (Eds.) (2003). *Leading and Managing People in the Dynamic Organization*. Mahwah, NJ: Lawrence Erlbaum.
- Pfeffer, J. (1998). *The Human Equation: Building Profits by Putting People First*. Boston, MA: Harvard Business School Press.
- Priem, R. & Butler, J. (2001). Is the resource based “view” a useful perspective for strategic management research? *Academy of Management Review*, 26: 22-40.
- Reed, R. & DeFillippi (1990). Causal ambiguity, barriers to imitation, and sustainable competitive advantage. *Academy of Management Review*, 15: 88-102.
- Rindova, V. & Kotha, S. (2001). Continuous “morphing”: Competing through dynamic capabilities, form, and function. *Academy of Management Journal*, 44: 1263-1281.
- Roberts, P. (1999). Product innovation, product market competition, and persistent profitability in the U.S. pharmaceutical industry. *Strategic Management Journal*, 20: 655-686.
- Schuler, R. & Jackson, S. (1987). Linking competitive strategies and human resource management practices. *Academy of Management Executive*, 1: 207-219.
- Shafer, R, Dyer, L., Kilty, J., Amos, J., & Ericksen, J. (2001). Crafting a human resource strategy to foster organizational agility. *Human Resource Management*, 40: 197-211.
- Stross, R. (2004). What is Google’s secret weapon? An army of Ph.D.’s. *New York Times* (Business Section), June 6: 3.
- Tripsas, M. (1997). Unraveling the process of creative destruction: Complementary assets and incumbent survival in the typesetter industry. *Strategic Management Journal*, 18: 119-143.
- Ulrich, D. and Lake, D. (1990). *Organizational Capability: Competing from the Inside Out*. New York: Wiley.
- Unsworth, K. & Parker, S. (2003). Proactivity and innovation: Promoting a new workforce for the new workplace. In D. Holman, T. Wall, C. Clegg, P. Sparrow & A. Howard (Eds.), *The New Workplace: A Guide to the Human Impact of Modern Working Practices*. West Sussex, UK: Wiley.
- Vogelstein, F. (2004). Google @ \$165: Are these guys for real? *Fortune*, December 13: 98-110.
- Wright, P. & McMahan, G. (1992). Theoretical perspectives for strategic human resource management. *Journal of Management*, 18: 295-320.
- Wright, P. and Snell, S. (1998). Toward a unifying framework for exploring fit and flexibility in strategic human resource management. *Academy of Management Review*, 23: 756-772.