

**NO VACANCIES? BUILDING THEORY ON HOW ORGANIZATIONS MOVE
PEOPLE ACROSS JOBS**

ABSTRACT

Mobility processes, the routines that organizations use to move employees into and across jobs, are a critical determinant of the way that human capital is allocated within organizations and careers developed. Most existing work on these mobility processes has examined processes in which mobility is tightly coupled to the filling of vacancies. There is substantial evidence, though, that many organizations adopt very different processes for managing mobility. In this theory paper, I compare vacancy-based, “job-pull” systems with alternative, “person-push” systems in which mobility is keyed to employees’ attainment of performance and skill thresholds to explain how and why mobility processes vary. I identify two, inter-related dimensions along which mobility processes vary: whether their decisions processes emphasize the need to match employees to tasks versus providing predictable rewards; and whether the system of jobs that people move between prioritizes flexibility or control of agency costs. I use these dimensions to predict when organizations will adopt different mobility processes, and how those processes will affect employees’ mobility.

Recent years have seen growing interest in the role of human capital in firm performance (Campbell, Coff, & Kryscynski, 2012; Chadwick & Dabu, 2009; Coff, 1997). This research often highlights the value of getting the right people into the firm. Yet hiring is only one way that firms can generate increased value from their workforce. Equally important is their capacity to staff employees to the roles where they will create the most value (Chatain & Meyer-Doyle, 2017). Better understanding how firms assign employees to tasks, through both the allocation of different tasks to specific jobs, and the allocation of those jobs to specific employees, is important for understanding how firms create value from their workforce.

Although research on strategic human capital has said little about how employees are allocated within organizations, research on mobility and careers has identified factors that affect human capital deployment. A focus of this work has been to understand when employees are redeployed from lower-level to higher-level roles through promotion (e.g. Baker, Gibbs, & Holmstrom, 1994a; Ferguson & Hasan, 2013; McCue, 1996), often examining which employees are promoted (e.g. Bamberger, Admati-Dvir, & Harel, 1995; Beckman & Phillips, 2005; Ng, Eby, Sorensen, & Feldman, 2005). Such individual-level studies provide insight into how people move within organizations; a full understanding of mobility within organizations, though, requires us to place those moves within an organizational context, understanding the patterns of organizational action that move people from role to role. The field of management has long recognized that organizations do not automatically optimize their behavior, but that their actions are instead shaped by their decisions processes (Cyert & March, 1963; March & Simon, 1958). Within the field of strategy, process studies have illuminated how organizations allocate capital and strategic resources (Bower, 1970; Burgelman, 1983). Similarly, understanding the processes

that organizations use to move employees between jobs can enhance our understanding of when and how people move jobs.

Our best developed models of mobility within organizations revolve around the filling of vacancies in internal labor markets (Doeringer & Piore, 1971; Stewman & Konda, 1983; White, 1970). These models are based on traditional, bureaucratic organizations where narrowly-defined positions exist separately from the people who occupy them (Gerth & Mills, 1946). Mobility is then governed by the presence of “vacancies,” where positions are empty either because they have just been created or because their previous incumbent has left. It is those vacancies that trigger the organization to fill the job, through internal mobility or hiring.

Although these vacancy-based models have generated many insights, they are not an accurate reflection of how many firms now manage internal mobility. Scholars have long noted that not all mobility is preceded by a vacancy, with many moves responding instead to the idiosyncratic needs of particular individuals (e.g. Miner, 1987; Rosenbaum, 1990). Studies of mobility in universities (Miner, 1987), law firms (Galanter & Palay, 1990), government agencies (Stewman & Yeh, 1991) and a forestry products company (Pinfield, 1995) have all described very different mobility processes from those outlined in internal labor market theory, processes in which upwards mobility is largely decoupled from vacancies and is instead driven by individual achievement of performance, skill or seniority thresholds. As many organizations have moved away from bureaucratic systems of jobs, embracing systems in which job descriptions are broader and more fluid (Singh, 2008; Stewart & Carson, 1997), the conceptual underpinnings of the vacancy model are also less relevant to many organizations. Instead, theories of incentives may provide more insight into the logic of these alternative systems (Lazear & Rosen, 1981; Waldman, 1990).

While we now know that organizations take diverse approaches to managing employee mobility, we lack an analytical lens for comparing these approaches, explaining why firms choose to manage mobility in different ways and how different processes might affect employee mobility. I believe that this gap is a problem for our understanding of how organizations allocate human capital across job. How firms structure their career systems has enormous influence on who ends up in what job when, shaping both the firm's use of its human capital, and how workers build careers (Sonnenfeld & Peiperl, 1988). If our models of how people move through organizations no longer fit the processes that firms use, then our theories will offer an incomplete understanding of how and when people move jobs.

In this paper, I develop a theoretical model to explain differences across mobility processes. I first compare two archetypes. Under the traditional "job-pull" system, mobility is driven by the filling of vacancies, as the organization seeks to keep a set of tightly-defined jobs occupied. In a "person-push" process, by contrast, mobility usually occurs as a reward for achieving certain levels of skills and performance, so that the timing of moves reflects personal achievements rather than the occurrence of vacancies.

I then draw on the differences between these archetypes to identify two dimensions along which mobility processes vary, and show how those dimensions are shaped by classic tradeoffs identified in organization economics. First, I describe how mobility processes vary in terms of their decision processes: specifically, what stimuli trigger decisions, and what criteria are used to make those decisions. I argued that differences in these decision processes reflect trade-offs between the matching versus rewarding functions of promotions (Chan, 1996; Waldman, 1984). Second, mobility processes are shaped by the underlying system of jobs, as job-pull systems rely on narrow, stable jobs while person-push systems are based on broader, more fluid roles. Classic

organization theory notes that broader job descriptions increase organizational flexibility (Burns & Stalker, 1961); yet research in organizational economics emphasizes that such the costs of such flexibility is increased agency costs (Gibbons, 1999; Milgrom & Roberts, 1988). I use these tradeoffs, between matching versus rewards and flexibility versus control, to predict when organizations are likely to adopt particular mobility processes and how those processes will affect mobility.

I believe that this paper contributes to our understanding of how modern organizations manage mobility. Although others have noted the limitations of vacancy models (e.g. Miner, 1987; Rosenbaum, 1990) and described alternative kinds of mobility (e.g. Pinfield, 1995; Stewman & Yeh, 1991), they have not explained why these differences occur. By doing so, I highlight the diversity in the ways that firms manage mobility and offer an explanation for these differences. I also describe how those different processes will affect how people move within organizations, as environmental, organizational and individual influences shape promotion differently depending on the processes used. Finally, I bring together literature on mobility and job design, highlighting the links between them and describing some of the challenges that firms can encounter as they move to broader, more fluid job designs.

DEFINING MOBILITY PROCESSES

The focus of this paper is on organizational mobility processes, which are the set of processes organizations use to decide when and how to move employees between jobs. I define those processes as comprising three elements: First, a set of jobs, representing a mapping of responsibilities and rewards to tasks; second, a set of events that trigger decisions to move people; and third, the criteria used to make those decisions.

I use the job of as my unit of analysis. Although a given organization may apply similar processes across many of the jobs that it contains, there can also be substantial differences. Within academia, faculty in many different fields are subject to the same rules governing promotion; yet those rules are very different from those that cover non-academic administrators. Similarly, the processes governing the mobility of research scientists in a pharmaceutical company are likely to be different from those used for manufacturing personnel or sales managers. Considering mobility processes at the level of the job recognizes this variation.

I begin my discussion by describing the vacancy-based processes that have been most studied by scholars of careers and employment. I then describe a very different set of processes that eschew the use of vacancies to drive mobility. I use the contrast between these two approaches to develop a broader framework for understanding how and why mobility processes vary, and what effect that variation has on careers.

The Job-Pull System

Our dominant model of mobility processes is one organized around vacancies, which, for the purposes of this paper, I describe as a “job-pull” system.¹ Job-pull systems tend to be built around a semi-stable set of jobs which tightly define the tasks to be performed by each job-holder. Each move into a job, whether by hiring, promotion, or a lateral move, is triggered by an identified vacancy, where a job that needs to be done is not being occupied by a person. Such a vacancy could arise through the exit from the job of the prior incumbent, or through the creation of a new job through growth or reorganization. The need to fill the vacancy will trigger a search for a suitable candidate among current employees and/or potential hires. Within unionized

¹ Pinfield (1995) uses the terms “push” and “pull” systems. Stewman and Yeh (1991) describe “vacancy-based” versus “seniority- or performance-based” moves. I use the terms job-pull and person-push to encompass both the different process triggers, and the units that they are oriented around.

workplaces, decisions about which candidate to choose were often based on seniority (Doeringer & Piore, 1971; Slichter, Healy, & Livernash, 1960). In modern organizations, decisions are more likely to emphasize fit with the demands of the job. Although the closely-defined system of jobs and the vacancy-driven decision process are analytically separate, the narrow definition of the jobs allows for the easy identification of vacancies, which can then be used to govern mobility. These closely defined vacancies pull employees through the system, matching the needs of the work to the people provided. Examples of such vacancy-driven processes include the decision to promote a store manager into a regional management position following the resignation of the prior incumbent, or the promotion of a supermarket cashier to first-level supervisor after the previous supervisor was promoted to another job.

This job-pull model underpins much research on mobility (e.g. Barnett & Miner, 1992; Haveman & Cohen, 1994; Konda & Stewman, 1980; White, 1970). Important work has explored how vacancies move through organization, and how they can be used to predict mobility rates (e.g. Stewman & Konda, 1983; White, 1970). The model has been particularly well studied in jobs where there is a very clear mapping between individuals and their responsibilities, such as the managerial grades in large corporations and government agencies, and even in church organizations (e.g. Stewman & Konda, 1983; Stewman & Yeh, 1991; White, 1970).

The Person-Push Model

Although there are many ways in which mobility processes can vary, a common alternative to the job-pull model is a “person-push” model which eschews the use of vacancies to govern mobility. This person-push model has not been the object of as much theorizing as the job-pull model, but it has been described in such settings as investment banking (Bidwell, 2011), law (Galanter & Palay, 1990), the research and information technology functions of a forestry

company (Pinfield, 1995), and the US Federal Civil Service (Stewman & Yeh, 1991). It is also the dominant system in US academia.

The person-push system is organized around the regular promotion of people who meet performance standards, often after set periods in the job, and usually with little regard to specific job needs. Unlike the job-pull system, the jobs around which the person-push system is based tend to be quite fluid. Instead of being permanently allocated to particular jobs, tasks in the person-push system are constantly being reallocated across people and even between levels of the hierarchy. In project-based work like consulting, for example, job definitions rarely define which individual a new project will be allocated to – instead a project can be taken on by one of a range of people. Nor is the division of work between managers, junior consultants and senior consultants rigidly defined, with tasks instead often allocated based on the needs and skills of the consultant.

Mobility between the broadly-defined jobs is usually then triggered by regular reviews of employees which determine who to move up to the next level and who to keep at their current level or let go. Decisions about who is promoted revolve around the attainment of necessary performance and skill thresholds. Rather than being pulled up into higher levels by vacancies, people therefore push themselves up through their achievements. Examples of such person-push systems include annual decisions within an investment bank about which associates to promote to vice president or the decision to promote an engineer to senior engineer based on their having accomplished three years of good performance.

As with the job-pull system, the nature of jobs and mobility processes complement each other. Since mobility is rarely triggered by vacancies in the person-push system, the organization must deal with employees' exits by reallocating responsibilities rather than immediately refilling

the job. The loose coupling between jobs and responsibilities makes this a much smoother process. As an example, think about what can happen when a project manager leaves a consulting firm. Rather than immediately hiring or promoting somebody into the same job, the organization may instead share his or her responsibilities between the remaining project managers. Alternatively, some of the junior consultants may take on more responsibility, or more senior managers may get more involved in the details of the work.

These characteristics of the person-push system also affect what mobility means within it. Although formal job titles map onto job responsibilities, they do not do so in a rigid manner. Promotions often gradually shift the kind of work that an employee performs, but not instantaneously; instead, someone is likely to begin taking on more responsibilities before a promotion and continue to accrue additional responsibilities following the promotion. Managers often describe those promotion decisions as ratifying the increased responsibilities that an individual is starting to take on, rather than causing an increase in responsibility.

Variations on a Theme

While the job-pull and person-push systems represent polar archetypes, other processes also exist, often combining features of both. For example, promotions in some large organizations take place in a two-step process. First, a formal review process identifies which employees are ready for promotion, as would happen in a person-push system. Once employees are designated as eligible for promotion, though, their promotion requires them to also find (and be accepted into) a specific vacancy at the next level, as would happen in a job-pull system.

Some universities have also combined elements of job-pull and person-push systems. Between the 1940s and the 1980s, for example, promotion to a tenured position at Harvard required both that assistant professors attained sufficient performance during the period of their

tenure clock, and that the department had a tenured vacancy, as allocated using the “Graustein formula” (Glasser, 1988; Lubow, 1972). Although there was some flexibility in applying the formula, this process made it difficult to tenure junior faculty whose clock expired when a tenured appointment was not available. When more than one junior faculty member was up for tenure, there would be explicit competition for the tenured slot.

In order to get a better understanding of these hybrids it is useful to understand the overarching logic that underpins job-pull and person-push systems. I develop a framework for understanding those systems next.

A FRAMEWORK FOR UNDERSTANDING MOBILITY PROCESSES

One way to understand why organizations choose different mobility processes is to examine the goals that those processes emphasize. Specifically, I argue that differences in mobility processes reflect two fundamental trade-offs identified in organizational economics. First, the decision processes in job-pull and person-push systems place different emphasis on matching people to jobs versus rewarding people. Second, the different job designs found in job-pull and person-push systems generate trade-offs between flexibility and control of agency costs. These two sets of tensions – of matching versus rewards on the one hand and flexibility versus control on the other – are fundamental tradeoffs in the design and operation of a mobility process. I describe these two dimensions here, before building on them to generate some propositions about when firms choose one process over another and what consequences those choices have.

Matching versus Rewards

Perhaps the most obvious goal of mobility processes is to achieve a match between people and tasks. Such matching has two distinct elements. Quantitative matching ensures that

people are assigned to jobs in the right quantity so that more people are employed in areas where there are more tasks needing to be done. Qualitative matching ensures that the right people are assigned to the right job, staffing roles with workers who possess skills suited to the job.

At the same time that mobility needs to match people to jobs effectively, it also serves as a reward for employees. Higher-ranked positions usually provide higher pay and more status, so that people seek promotion. Prior literature has emphasized the importance of promotions for wage growth (Baker, Gibbs, & Holmstrom, 1994b; McCue, 1996), and that the prospect of promotion is an important incentive (Lazear & Rosen, 1981; Williamson, Wachter, & Harris, 1975). Although trends towards flatter organizations have often reduced the number of possible promotions and the growing use of pay for performance (Lemieux, Macleod, & Parent, 2009) may have lessened promotions' relative importance as an incentive, promotions remain a highly sought after reward in most organizations. Indeed, their continued importance is demonstrated by the effort that companies such as Google put into the development of promotion ladders for individual contributors (Bock, 2015), providing more pay and higher status to better workers even without materially changing the task allocation.

The way that promotions simultaneously both change the match of employees to tasks and provide valued rewards creates scope for goal conflict. Perhaps most importantly, an employee may sometimes have demonstrated achievements worthy of promotion, but providing such a promotion would not improve the match between people and tasks in the organization. When an organization does not have demand for the kinds of work being done in more senior level jobs, promoting an able employee would represent a poor allocation of resources. Consider, for example, a talented store manager. Her performance may merit promotion. But if all of the regional management jobs are already being performed effectively, promoting her would result

in a surplus of regional managers. The allocation of human capital to tasks would therefore be better if the manager was not promoted, but a failure to promote her may demoralize her or leader her to quit. It can therefore be hard to simultaneously achieve both an effective matching of people to tasks and an appropriate distribution of rewards.

This trade-off between matching and rewards has been explored by work in organizational economics. Research on tournament theory, for example, has argued that firms may sometimes eschew filling jobs by hiring even if external candidates would fit the job better, because doing so would reduce internal candidates' motivation (Chan, 1996, 2006). Other work has suggested that the matching and reward functions of promotions may sometimes complement one another, as employers' desire to have more able people in more demanding jobs encourages them to promote better employees, even though this increases the wage bill (Prendergast, 1993).

In this paper, I argue that the tension between matching and rewards in mobility processes also shapes the processes used to govern mobility. In particular, Job-pull and person-push systems emphasize different sides of the trade-off between matching and rewards. By focusing on job demands in how mobility is triggered and staffing decisions are made, job-pull systems emphasize the needs of matching. The organization only moves people between jobs when the presence of a vacancy indicates is a need to change the allocation of people to roles. In this way, the system maintains a clear quantitative match between people and tasks. Similarly, the focus on filling a vacancy tends to focus the decision-process around who would provide the best match for the vacancy, emphasizing qualitative match.

By contrast, person-push systems emphasize the need to reward employees. Because person-push systems tend to focus on employee's achievements in determining when and whether to promote people, they create a tight link between individual actions and promotions.

Where promotions are purely vacancy-based, able employees may qualify for a promotion but be denied one because there are no vacancies. Where mobility is not dependent on vacancies, performance is more surely rewarded. Such a tight link between performance and promotions enhances the motivational effects of promotions, as emphasized both by expectancy (Vroom, 1964) and incentive theories (Chan, 1996, 2006).

This difference in priorities is, of course, one of degree. While mobility in the job-pull system is largely driven by vacancies, it is likely that action will also be taken if, for example, a valued employee is threatening to leave because of a lack of advancement. Even within job-pull systems, vacancies do not precede every move and idiosyncratic positions are often created for specific people (Miner, 1987) Moreover, decisions as to who should fill a vacancy will certainly reflect prior performance. Similarly, while person-push systems are much more likely to trigger mobility based on individual accomplishments, they will also take action if the need to fill a particular role becomes critical. Moreover, decisions about whose performance merits promotion are likely to be sensitive to the need for higher level employees. Nonetheless, the threshold at which a job-pull system will initiate action to fill a vacancy is much lower than in the person-push system; similarly, the threshold for a person-push system to consider moving somebody based on their seniority or achievements is much lower than in a job-pull system. Hence, the two processes differ substantially in the extent to which they meet these goals of matching versus rewards.

Flexibility versus Control

I noted above that the person-push process tends to rely on much broader, more fluid task allocations than does the job-pull process. This link between mobility processes and the underlying system of jobs helps to shape a second set of tradeoffs that those mobility processes

must manage: between having the flexibility to adapt rapidly to changes in the environment versus the control to reduce agency problems.

The narrow job definitions found in job-pull systems generally create less flexibility to react to a changing environment than person-push systems. As task demands shift, any reallocation of people across work within a job-pull system requires formal mobility from one job to another, engaging the organizational processes that manage that mobility. Those processes generally take time and managerial attention, creating barriers to adaptation. Similarly, new kinds of work that fall between existing jobs will be less likely to be done. Certainly, organizations find ways to work around these constraints: narrow job definitions can be stretched, and new job definitions are created to deal with novel situations (Miner, 1987; Miner & Estler, 1985). Nonetheless, such processes again take time and organizational attention. When jobs are broadly defined, by contrast, changes in task assignment can often occur without engaging formal mobility processes. Instead, decisions to reallocate tasks across people can be made in the lower levels of the organization, allowing for more flexible, autonomous responses to changes in demand (Burns & Stalker, 1961; Singh, 2008; Stewart & Carson, 1997). When job design is broad, employees are constantly negotiating who will do what, allowing roles to be rapidly reconfigured without a formal reorganization of the work. Because fewer task reassignments need to be accompanied by formal job mobility, the administrative burden on the higher levels of the organization is lower, allowing for faster decision making.

Although this flexibility can help organizations to adapt to change, influential research in organizational economics argues that increases in flexibility and discretion within organizations can also be associated with increased conflict and agency costs (Gibbons, 1999; Milgrom & Roberts, 1988). As managers have more discretion, the incentives for their subordinates to lobby

them increases. Limits on discretion are therefore an important tool for reducing influence costs within organizations (Gibbons, 1999; Milgrom & Roberts, 1988).

Managing such influence costs is likely to be particularly important where mobility is concerned, given that staffing decisions are among the most political decisions within organizations (G R Ferris & Judge, 1991; Gerald R Ferris, Buckley, & Allen, 1992). Employees usually want a promotion regardless of the needs of the organization, and managers seeking to maintain good relations with their subordinates may also push for those promotions. Empire building by managers further politicizes mobility (Allison & Zellikow, 1999; Mintzberg, 1983). Tight definitions of jobs helps to reduce these problems by creating a tight link between the work that an individual does and how they are classified and rewarded. Where jobs are narrowly defined, the number of people that can be employed at each level of the organization is determined by the number of positions on the organization chart. Where job definitions are broader, by contrast, there is greater scope for discretion in mobility decisions, and more politics ensues.

Hence, while the broad job definitions in person-push systems give them greater flexibility, those broad job definitions can also reduce management control over the system. Without the tight link between task demands and staffing, there can be more disputes over who gets to hire, who should be promoted when, and what rank an employee doing a given set of tasks should receive. Job-pull processes may therefore make it easier for senior managers to limit the number of promotions, even in the face of pressure from employees and other managers.

Lubow (1972) highlights such control features as a benefit of the Graustein formula. Because tenured slots were rationed, there was an automatic reason to deny promotion to an individual without having to engage in the details of the case: “The Graustein formula is a rule.

Harvard has many rules. When they don't want to give you something, they cite a rule." Within a vacancy-based system, rules can be broken and positions can be created when senior managers want to. But when vacancies are the main drivers of mobility, the benefit of the doubt does not go to the employee.

Understanding mobility processes in terms of these tradeoffs is useful because it provides a lens for answering two questions: first, what kind of mobility process is likely to be used to govern a particular job? And second, how might the determinants of mobility vary across organizations? I develop these ideas below.

EXPLAINING VARIATION IN MOBILITY PROCESSES

I have argued that the job-pull and person-push processes promote different goals: the job-pull system promotes matching and control in managing the allocation of human capital, while the person-push system fosters rewards and flexibility. These arguments have straightforward implications for when we should see each type of process: job-pull processes should be more common when matching and control are more important, while person-push processes should be found when rewards and flexibility take a higher priority. In this section, I draw out some simple implications for when organizations might adopt job-pull and person-push processes. I also summarize those arguments in Figure 2, which maps each of the goals met by job-pull and person-push processes onto the situations where they may be found.

Job-Pull Processes: Promoting Matching and Control

If job-pull processes emphasize matching and control in their operation, then they should be more likely to be found in situations that emphasize such matching and control. I draw on this logic to make the following predictions:

Matching. The value of job-pull systems should be higher where it is more important for firms to achieve both quantitative and qualitative matching in their staffing.

The importance of quantitative matching is likely to be reflect organizations' capacity to manage mismatches between the numbers of people in particular roles and the task demands that they face. Although inattention to matching could lead to either undersupply or oversupply of higher-level employees, pressures to promote employees means that an oversupply of higher-level employees is likely to be more common. Galanter and Palay (1990) suggest that pressures to promote lawyers regardless of demand was responsible for the growth of large law firms in the US. Because those firms had a personnel system based on promoting deserving lawyers to partner, they had a tendency to add partners. Because the firms also required high ratios of associates to partners in order to be profitable, they then had also to hire more associates, leading to exponential growth. Even where pressures to promote do not lead organizations to grow overall, they can create an imbalance in the ratio of senior to junior employees, as junior employees are promoted over time, even absent an increase in demand for higher-level work. Such a tendency to promote employees can make it hard to control costs. Where mobility decisions are triggered by vacancies, in contrast, the systems tends towards stasis in staffing: employees are only brought into a job when somebody leaves. This default position makes it easier to resist pressures to promote.

Because weaknesses in quantitative matching tend to lead to increased growth and higher costs, the benefits of quantitative matching are greater when growth is lower and cost control is more important. As a consequence, organizations are likely to find mobility processes that emphasize matching more attractive when the environment is less munificent and cost control is more important.

Proposition 1: Mobility is more likely to be governed by job-pull processes for jobs where quantitative matching is more important, because growth is more difficult or cost control more important.

We should also see job-pull systems in jobs where qualitative matching is more important. The importance of such matching is greater when there is more variation in the quality of different possible matches. In some areas of some organizations, most employees may be able to do most of the jobs. In a generalist accounting firm, for example, most accountants might be capable of taking on most of the work that the firm does. Promotion decisions would not then need to emphasize who would fit a specific set of needs, limiting the focus on qualitative matching.

In other jobs and organizations, though, skills and demands are highly specialized, so that somebody who has the skills for one role might be a poor match for a different role. In an accounting firm that provided highly specialized services to different industries, an accountant with the knowledge to advise on tax issues for oil exploration might not perform well in a role that helped prepare technology firms' accounts for Initial Public Offerings (IPOs). Promotions in that more heterogeneous firm would need to pay much more attention to the specific match of the person to the role as the tax accountant might not be able to oversee the work of those preparing IPOs.

To the extent that job-pull processes emphasize matching, we would therefore expect that those processes would be more likely to be found in situations where there was more heterogeneity in match quality, so that even high performing workers could only perform very specific higher-level roles. Specifically:

Proposition 2: Mobility is more likely to be governed by job-pull processes when there is greater heterogeneity in the match between people who could enter a job and the specific demands of the job.

Control. The increased control over agency costs found in job-pull systems should also affect where job-pull systems are used. I noted above that control is particularly important for reducing conflict. We might therefore expect job-pull systems to be more common in situations in which there is more disruptive conflict over task allocation and where the clear rules associated with the job-pull system help to impose an organizational truce on participants (Nelson & Winter, 1982). Among academic departments, for example, fixing the number of slots in each sub-discipline is a common strategy by which heterogeneous departments avoid destructive conflict over the kinds of new hires that they will make. Similarly, organizations in which members have strongly divergent interests, may prefer to use narrow job definitions in order to minimize the scope for costly politicking over staffing decisions. As such, I suggest:

Proposition 3: Mobility is more likely to be governed by job-pull processes where diversity in the interests of members increases the importance of controlling conflict over staffing decisions.

Person-Push Systems: Promoting Rewards and Flexibility

If we find job-pull systems where matching and control are more important, then person-push systems should be more prevalent when the use of promotion as a reward is more valuable, and where flexibility in task allocation is important.

Importance of Promotions as a Reward: Given the stronger link between performance and rewards in person-push systems, such systems should be more common where organizations face more pressure to promote high performers in a predictable manner. Some of the factors that

affect pressures to promote high performers include the value of promotions as a reward, the regularity with which vacancies occur, and the importance of retaining high performers.

First, the value of promotions as a reward depends in part on the other instruments available for motivating employees. Where financial rewards such as commissions, bonuses and stock options play a central role in motivating people, the use of promotions as a reward is less important. Williamson et al (1975) argue, though, that promotions can be the most effective source of long-term motivation in jobs where performance is hard to measure and must be appraised over long periods of time. A mobility process that emphasizes rewards will be particularly important in such roles.

Second, the person-push system is likely to be more important in situations where vacancies are highly irregular. Where there are comparatively small numbers of jobs within the job ladder or exit from jobs is slow, it is less likely that an employee's readiness for promotion will coincide with the availability of a vacancy would be low. The prospect of promotion would not, therefore, be an effective reward under a job pull process, as it is less likely that high performance will be rewarded with promotion. In such cases, a person-push system would allow promotions to provide clear rewards. Where, by contrast, vacancies appear very regularly, a job-pull system might be able to offer sufficient prospects of reward to motivate people effectively.

Third, we might expect that a clearer link between performance and promotion is more valuable where retention of high performers is more important. The failure to promote people who are ready to move up to the next level often leads to their exit. In some cases, this may be an acceptable cost to the organization. Where, however, exit is very costly, perhaps because there is fierce competition in the labor market or because employees command important organizational

assets such as client relationships, then the need to promote high performers will be greater. I propose:

Proposition 4: Mobility is more likely to be governed by person-push processes when it is more important to use promotions as a reward, including when:

- a) Promotions are a more effective means of motivating employees compared to other incentives.*
- b) Vacancies occur irregularly*
- c) Retention of high performers is more important to organizational performance.*

Flexibility. Finally, I have argued that an important advantage of the broader, more fluid job definitions that underlie person-push systems is their ability facilitate rapid adaptation to changing demands. Those systems should therefore be better suited to situations where flexibility is important. Burns and Stalker (1961) argued that the kinds of “organic” organizational structures that feature broad job roles are more appropriate to changing conditions. Extending those arguments to the mobility process, I predict that:

Proposition 5: Mobility is more likely to be governed by person-push processes when flexibility is more important because of unpredictable and rapidly changing environments.

IMPLICATIONS FOR MOBILITY

A central reason to study mobility processes is to understand who ends up getting allocated to what jobs when. I argue that these allocations will also be shaped by the nature of the mobility process. As I have outlined above, job-pull and person-push systems attend to different stimuli and are based on different job structures, leading them to emphasize matching and control on the one hand and rewards and flexibility on the other. I argue that these emphases on different goals will affect the pressures that the two systems respond to, so that different

variables will be more important in predicting mobility under the two systems. I highlight those relationships in Figure 3, which links each of the goals of the system to the variables that will most influence on mobility. I develop the propositions in detail below.

Job Pull Systems and the Determinants of Mobility

Matching. The central logic of the job-pull system is that people move jobs when a vacancy needs to be filled, leading to close matching between task demands and the allocation of people. This logic has been extensively developed in the literature on vacancies, which shows how mobility rates depend on the creation of vacancies (e.g. Haveman & Cohen, 1994; Stewman, 1986; White, 1970). Those arguments are at least partly dependent, though, on the mobility processes that organizations adopt.

More specifically, the literature on vacancy chains identifies two important processes that create vacancies. The first of these is the exit of a prior incumbent from their job. The creation of vacancies through employee exit leads to “career interdependence,” as the ability of one employee to enter a job depends on the decision of another employee to exit that job (Barnett & Miner, 1992; White, 1970). Because such interdependence is driven by the creation of vacancies, it likely to be much greater in job-pull systems which are based on those vacancies. I therefore predict:

Proposition 6: Rates of promotion are more closely related to mobility of other employees (i.e. careers are more interdependent) in jobs that are governed by job-push mobility processes.

A second process that creates vacancies is growth in the number of jobs (Stewman, 1986; Stewman & Konda, 1983). As organizations grow, they tend to create new positions throughout the hierarchy. The need to fill those new positions then leads them to promote people from the

lower levels of the organization. Indeed, if exit rates do not increase, then organizational growth is the only way that promotions can be increased in a job-pull system. The combination of a matching logic and tightly defined jobs therefore creates a tight link between organizational growth rates and intra-organizational mobility in job-pull systems.

This relationship is likely to be weaker in person-push systems. As a person-push organization grows, it does not create vacancies in the same way. Increased demand may often be managed by increasing the number of junior positions rather than increasing positions at all levels of the hierarchy. Conversely, organizational growth is not necessary for person-push organizations to increase the number of higher-level positions, as existing employees can be promoted to higher-level positions without a pre-existing vacancy. Although organizational growth may make it easier for person-push systems to meet employees' demands for promotion, the direct link between growth and promotion found in job-pull systems will therefore be absent. As a consequence, the relationship between growth and promotion rates is likely to be weaker in person-push systems.

Proposition 7: Rates of promotion are more closely related to organizational growth in job-pull systems compared to person-push.

Control. I have argued that job-pull systems help to control agency costs as the need for vacancies limits discretion in promoting people. This argument implies that rates of promotion should be less sensitive to political pressures in job-pull systems. In person-push processes, promoting people may form a means of managing conflict, by providing rewards to those with more influence. For example, Phillips (2001) argues that promotion rates can reflect the bargaining power of employees vis-à-vis their employers, and demonstrates that law firms with a higher risk of failure also have a higher promotion rate.

The vacancy-based logic of the job-pull system means that it is potentially less sensitive to such political pressures. While it is easy for a powerful employee to lobby for promotion under a person-push system, it is more complicated for them to make the case where that promotion also involves creating a new job within the job-pull system. The implication of these arguments is that:

Proposition 8: Rates of promotion are less closely related to individual power in job-pull systems compared to person-push.

Person-push systems and the determinants of mobility

Rewards. The strong emphasis on rewards in person-push systems also has implications for mobility. Within person-push systems, whether somebody is promoted should depend almost entirely on their performance and seniority. In job-pull systems, vacancies must also be present, weakening the link to performance. As a consequence, rates of promotion should be more strongly tied to individual performance and individual attributes in a person-push system. I predict:

Proposition 9: Individual performance and individual attributes that correlate with performance are stronger predictors of promotion in person-push systems.

Flexibility. I have also argued that the broad and fluid job definitions that underpin person-push systems allow for adaptation through informal reallocations of work rather than by formal reorganizations. Such informal reallocation may reduce the rate of internal mobility within person-push systems. Adaptation to a significant environmental change is likely to require a reorganization in a job-pull system, as people are allocated to different tasks with different job definitions. The broader job descriptions found in person-push system may allow that same reallocation of tasks to take place without any formal change in jobs. This suggests that

environmental change may trigger much less intra-organizational mobility in person-push systems than job-pull systems. I predict that:

Proposition 10: Pressures for adaptation are more strongly related to intra-organizational mobility in job-pull systems compared to person-push systems.

DISCUSSION

This paper seeks to contribute to research on employee mobility by developing theory about the processes that organizations use to move people between jobs. I argue that many organizations adopt mobility processes that are very different from the vacancy-based, job-pull system discussed in much of the existing literature. I contrast the job-pull system with the alternative archetype represented by the person-push system in order to identify the tradeoffs that shape organizations' choices of mobility processes and their effects on how people move between jobs. Specifically, I argue that different mobility processes represent different responses to two tensions: between basing decision processes on matching people to jobs versus rewarding employees; and between designing the underlying system of jobs to achieve flexibility versus control agency costs. I build off these tensions to explain the mobility processes likely to govern different jobs and the effects of those processes on careers.

The arguments developed in this paper contribute to a number of literatures. First, I seek to add to our understanding of how human capital is allocated within organizations by emphasizing the effects of process differences on mobility. While early work on internal labor markets used process perspectives to explore how people moved across jobs (DiPrete, 1987; Doeringer & Piore, 1971; Rosenbaum, 1979; Stewman, 1986), those theories have not kept pace with the variety of different kinds of jobs and different kinds of allocation processes that we now see within organizations. I have illustrated how modern mobility systems can differ from the

canonical job-pull model described in earlier literature, and explored how these process differences moderate many core predictions in existing research. Much research has explored the determinants and consequences of mobility within and across organizations, drawing heavily on theories of vacancy chains (e.g. Dencker, 2009; Haveman & Cohen, 1994; Stewman, 1986). I argue that important boundary conditions exist for this work: arguments that predict mobility based on organizational growth and the moves of others assume that organizations operate vacancy-based mobility processes. I propose that the link between promotion and organizational growth or the careers of others will be much weaker in alternative mobility processes where vacancies play little role. In contrast, I argue that individual-level attributes such as ability and bargaining power are likely to be much stronger determinants of mobility in person-push systems. In doing so, I hope to highlight the importance of paying more attention to how mobility takes place.

Although the main focus of the paper has been to understand the implications of these systems for internal mobility, it is likely that mobility processes have implications for external hiring too. I have noted that different stimuli tend to trigger internal mobility in job-pull systems compared to person-push systems, as events like job exits, growth and reorganizations trigger searches to fill the vacancies. It is likely that those vacancies are sometimes filled from outside, as searches encompass both internal and external candidates. As a consequence, external hiring may also be more responsive to exits, growth and reorganizations in job-pull systems than in person-push systems. Indeed, it is also likely that job-pull systems have more external hiring overall: not only do job-pull systems have more stimuli that are likely to trigger searches; their emphasis on matching prioritizes finding the right person for the job, while the person-push system prioritizes rewarding insiders through promotion. I suspect that this creates a stronger

bias for internal promotion over external hiring in person-push systems (see also Chan, 1996). Recent work has highlighted the varied strategic implications of external hiring (e.g. Almeida, Dokko, & Rosenkopf, 2003; Dokko & Rosenkopf, 2010; Mawdsley & Somaya, 2015; Tzabbar, 2009). Differences in mobility processes may provide a new lens for understanding when firms are more versus less likely to engage in such hiring.

Similarly, while I have focused on comparing the two archetypes of job-pull and person-push systems, I believe that the ideas developed in this paper would also be helpful for understanding the hybrids that I noted above. In particular, I argued that job-pull systems emphasize matching and control, while person-push systems emphasize rewards and flexibility. It is likely that hybrids occur when organizations seek systems with “off-diagonal” properties, combining matching with flexibility or rewards with control. While I have argued that complementarity between decision processes and job design favor the archetypal job-pull and person-push systems, a strong need for such off-diagonal systems likely encourages organizations to combine decision processes and job design in different ways.

This study also has implications for the literature on designing human resource systems around people versus jobs. A stream of literature in the 1990s argued that organizations should move towards managing people based on their skills and competences, rather than the specific job that they held (e.g. Lawler, 1994; Murray & Gerhart, 1998; Sanchez & Levine, 2009). This study adds to that literature by articulating the strengths and weaknesses of managing mobility around individuals, a topic that was not explored in detail within that literature.² I offer an explanation for why, despite the advantages ascribed to managing based on individual needs and skills, job-based systems remain common within organizations (Giancola, 2009). In particular,

²Indeed, Lawler (1994:14) specifically identified the question of how individuals would be allocated against particular tasks and activities in competency-based organizations as an important area for future study.

while person-push mobility processes provide greater flexibility and are better at rewarding employees, these advantages come at the expense of a weaker capacity to match people to work, and an increase in agency costs.

In a related vein, while the comparison between broad and narrow job designs has been debated in a number of papers (Singh, 2008; Stewart & Carson, 1997), that work has generally not explored the implications for mobility and careers. This paper emphasizes the strong connection between how jobs are designed and how people flow through them. One implication of my arguments is that prior work may have under-estimated the benefits that narrow job designs provide in terms of their ability to facilitate organizational matching of people to tasks and to allow senior managers to exercise control over the staffing system.

A next step for pursuing the ideas proposed here is to conduct more empirical research into mobility processes. One way to do this is through the development of more detailed ethnographies of how mobility is managed within organizations (Pinfield (1995) provides an excellent example of such an endeavor). Much of the most influential work on organizational processes has taken a qualitative approach (e.g. Bower, 1970; Burgelman, 1983), and it is likely that rich descriptions of mobility processes in different organizations would develop our understanding of the range of mobility processes being used and the effects that they have. Properly testing the arguments that I have developed here would also require quantitative work that examined the causes and effects of different forms of mobility processes.

The theory presented here provides clear guidance on how mobility processes could be measured. Specifically, I identified three ways in which mobility processes can vary: the triggers used to initiate mobility, the criteria given most weight in mobility decisions, and whether the underlying job structure relies on narrow or broad job classifications. Those characteristics can

be used to measure mobility processes. For example, the use of vacancies versus individual attributes in triggering mobility might be gauged by questions such as: Is it necessary for a job to be created or vacated for an employee to be promoted? And what proportion of promotions take place as part of an annual personnel process versus when new needs occur?

One way to collect such data would be to use cross-organization surveys of HR managers. In conducting such work, it would be important to pay careful attention to levels of analysis. I have noted that mobility processes can vary within organizations for different kinds of jobs. Empirical work will therefore need to identify groups of similar jobs that share the same set of mobility processes and use them as the fundamental unit of analysis. An alternative approach would be to survey a cross-section of employees in different organizations, asking them about how their last move took place. Such an approach would have the advantage of accessing a wide cross-section of kinds of jobs, with answers anchored to very specific decisions. It is possible, though that the employees might have only limited insight into how decisions about their mobility were made.

Ideally, the ideas outlined in this paper will also be of use to managers in structuring and managing careers and staffing within organizations. I have outlined the tensions inherent in different mobility processes. I hope that this description will help managers to consider the various possible ways in which a mobility process can be structured, and what kind of mobility process might be most applicable to their organization. Such questions are particularly pressing during times of organizational change, when a mobility process that served the organization's needs in the past may no longer be viable. I hope that understanding the tradeoffs involved in mobility processes can help in building a process that suits the needs of the firm and its workers.

This paper provides a first few steps in outlining these tradeoffs, but I believe that there is much more to do to fully understand the design of mobility processes.

REFERENCES

- Allison, G., & Zellikow, P. (1999). *Essence of Decision: Explaining the Cuban Missile Crisis* (2nd ed.). New York: Addison-Wesley Longman.
- Almeida, P., Dokko, G., & Rosenkopf, L. (2003). Startup size and the mechanisms of external learning: increasing opportunity and decreasing ability? *Research Policy*, 32, 301–315.
- Baker, G., Gibbs, M., & Holmstrom, B. (1994a). The Internal Economics of the Firm: Evidence from Personnel Data. *The Quarterly Journal of Economics*, 109(4), 881–919. Retrieved from <http://www.jstor.org/stable/2118351>
- Baker, G., Gibbs, M., & Holmstrom, B. (1994b). The Wage Policy of a Firm. *The Quarterly Journal of Economics*, 109(4), 921–955. Retrieved from <http://www.jstor.org/stable/2118352>
- Bamberger, P., Admati-Dvir, M., & Harel, G. (1995). Gender-Based Wage and Promotion Discrimination in Israeli High-Technology Firms: Do Unions Make a Difference? *The Academy of Management Journal*, 38(6), 1744–1761. Retrieved from <http://www.jstor.org/stable/256853>
- Barnett, W. P., & Miner, A. S. (1992). Standing on the Shoulders of Others: Career Interdependence in Job Mobility. *Administrative Science Quarterly*, 37(2), 262–281. Retrieved from <http://www.jstor.org/stable/2393224>
- Beckman, C., & Phillips, D. J. (2005). Interorganizational determinants of promotion: Client leadership and promotion of women attorneys. *American Sociological Review*, 70, 678–701.
- Bidwell, M. J. (2011). Paying More to Get Less: Specific Skills, Incomplete Information and the Effects of External Hiring versus Internal Mobility. *Administrative Science Quarterly*, 56(3), 369–407.
- Bock, L. (2015). *Work Rules*. Twelve.
- Bower, J. L. (1970). *Managing the resource allocation process: A study of corporate planning and investment*. Boston: Harvard University, Division of Research, Graduate School of Business Administration.
- Burgelman, R. A. (1983). A Process Model of Internal Corporate Venturing in the Diversified Major Firm. *Administrative Science Quarterly*, 28(2), 223–244. Retrieved from <http://www.jstor.org/stable/2392619>
- Burns, T., & Stalker, G. M. (1961). *The management of innovation*. London: Tavistock.
- Campbell, B. A., Coff, R., & Kryscynski, D. (2012). Rethinking Sustained Advantage from Human Capital. *Academy of Management Review*.
- Chadwick, C., & Dabu, A. (2009). Human Resources, Human Resource Management, and the Competitive Advantage of Firms: Toward a More Comprehensive Model of Causal Linkages. *Organization Science*, 20(1), 253–272. Retrieved from <http://www.jstor.org/stable/25614652>
- Chan, W. (1996). External Recruitment versus Internal Promotion. *Journal of Labor Economics*, 14(4), 555–570. Retrieved from <http://www.jstor.org/stable/2535439>
- Chan, W. (2006). External Recruitment and Intrafirm Mobility. *Economic Inquiry*, 44(1), 169.
- Chatain, O., & Meyer-Doyle, P. (2017). Alleviating managerial dilemmas in human-capital-intensive firms through incentives: Evidence from M&A legal advisors. *Strategic Management Journal*, 38(2), 232–254. <https://doi.org/10.1002/smj.2473>
- Coff, R. W. (1997). Human Assets and Management Dilemmas: Coping with Hazards on the Road to Resource-Based Theory. *The Academy of Management Review*, 22(2), 374–402.

- Retrieved from <http://www.jstor.org/stable/259327>
- Cyert, R. M., & March, J. G. (1963). *A behavioral theory of the firm* (2nd ed.). Blackwell.
- Dencker, J. C. (2009). Relative Bargaining Power, Corporate Restructuring, and Managerial Incentives. *Administrative Science Quarterly*, 54(3), 453–485.
- DiPrete, T. A. (1987). Horizontal and Vertical Mobility in Organizations. *Administrative Science Quarterly*, 32(3), 422–444. Retrieved from <http://www.jstor.org/stable/2392913>
- Doeringer, P. B., & Piore, M. J. (1971). *Internal labor markets and manpower analysis*. Lexington, Mass., Mass.: Heath.
- Dokko, G., & Rosenkopf, L. (2010). Social capital for hire? Mobility of technical professionals and firm influence in wireless standards committees. *Organization Science*, 21(3), 677–695.
- Ferguson, J.-P., & Hasan, S. (2013). Specialization and Career Dynamics: Evidence from the Indian Administrative Service. *Administrative Science Quarterly*, 58(2), 233–256. <https://doi.org/10.1177/0001839213486759>
- Ferris, G R, & Judge, T. A. (1991). Personnel/Human Resources Management: A Political Influence Perspective. *Journal of Management*, 17, 447–488.
- Ferris, Gerald R, Buckley, M. R., & Allen, G. M. (1992). Promotion Systems in Organizations. *Human Resource Planning*, 15(3), 47–68.
- Galanter, M., & Palay, T. M. (1990). Why the big get bigger: the promotion-to-partner tournament and the growth of large law firms. *Virginia Law Review*, 76(747–811).
- Gerth, H. H., & Mills, C. W. (1946). *From Max Weber: Essays in Sociology*. New York: Oxford University Press.
- Giancola, F. L. (2009). A Framework for Understanding New Concepts in Compensation Management. (cover story). *Benefits & Compensation Digest*, 46(9), 1.
- Gibbons, R. (1999). Taking Coase Seriously. *Administrative Science Quarterly*, 44(1), 145–157. Retrieved from <http://www.jstor.org/stable/2667034>
- Glasser, S. B. (1988). Faculty moves away from power politics. A new staffing system. *The Harvard Crimson*.
- Haveman, H. A., & Cohen, L. E. (1994). The Ecological Dynamics of Careers: The Impact of Organizational Founding, Dissolution, and Merger on Job Mobility. *The American Journal of Sociology*, 100(1), 104–152. Retrieved from <http://www.jstor.org/stable/2782539>
- Konda, S. L., & Stewman, S. (1980). An Opportunity Labor Demand Model and Markovian Labor Supply Models: Comparative Tests in an Organization. *American Sociological Review*, 45(2), 276–301. Retrieved from <http://www.jstor.org/stable/2095126>
- Lawler, E. E. I. (1994). From Job-Based to Competency-Based Organizations. *Journal of Organizational Behavior*, 15(1), 3–15. <https://doi.org/10.2307/2488374>
- Lazear, E. P., & Rosen, S. (1981). Rank-Order Tournaments as Optimum Labor Contracts. *The Journal of Political Economy*, 89(5), 841–864. Retrieved from <http://www.jstor.org/stable/1830810>
- Lemieux, T., Macleod, W. B., & Parent, D. (2009). Performance Pay and Wage Inequality. *The Quarterly Journal of Economics*, 124(1), 1–49. Retrieved from <http://www.jstor.org/stable/40506223>
- Lubow, A. H. (1972). Tell me, how can I get tenure at Harvard? *The Harvard Crimson*.
- March, J. G., & Simon, H. A. (1958). *Organizations* (2nd ed.). Cambridge, MA: Blackwell.
- Mawdsley, J. K., & Somaya, D. (2015). Employee Mobility and Organizational Outcomes. *Journal of Management*, 42(1), 85–113. <https://doi.org/10.1177/0149206315616459>
- McCue, K. (1996). Promotions and Wage Growth. *Journal of Labor Economics*, 14(2), 175–209.

- Retrieved from <http://www.jstor.org/stable/2535350>
- Milgrom, P., & Roberts, J. (1988). An Economic Approach to Influence Activities in Organizations. *The American Journal of Sociology*, 94, S154–S179. Retrieved from <http://www.jstor.org/stable/2780245>
- Miner, A. S. (1987). Idiosyncratic Jobs in Formalized Organizations. *Administrative Science Quarterly*, 32(3), 327–351. Retrieved from <http://www.jstor.org/stable/2392908>
- Miner, A. S., & Estler, S. E. (1985). Accrual Mobility: Job Mobility in Higher Education through Responsibility Accrual. *The Journal of Higher Education*, 56(2), 121–143. Retrieved from <http://www.jstor.org/stable/1981662>
- Mintzberg, H. (1983). *Power in and around organizations*. Englewood Cliffs, NJ: Prentice Hall.
- Murray, B., & Gerhart, B. (1998). An Empirical Analysis of a Skill-Based Pay Program and Plant Performance Outcomes. *The Academy of Management Journal*, 41(1), 68–78. <https://doi.org/10.2307/256898>
- Nelson, R. R., & Winter, S. G. (1982). *An evolutionary theory of economic change*. Cambridge, MA: The Belknap Press of Harvard University.
- Ng, T. W., Eby, L. T., Sorensen, K. L., & Feldman, D. C. (2005). PREDICTORS OF OBJECTIVE AND SUBJECTIVE CAREER SUCCESS: A META-ANALYSIS. *Personnel Psychology*, 58(2), 367–408. <https://doi.org/10.1111/j.1744-6570.2005.00515.x>
- Pinfield, L. T. (1995). *The operation of internal labor markets: Staffing practices and vacancy chains*. Springer.
- Prendergast, C. (1993). The Role of Promotion in Inducing Specific Human Capital Acquisition. *The Quarterly Journal of Economics*, 108(2), 523–534. Retrieved from <http://www.jstor.org/stable/2118343>
- Rosenbaum, J. E. (1979). Tournament Mobility: Career Patterns in a Corporation. *Administrative Science Quarterly*, 24(2), 220–241. Retrieved from <http://www.jstor.org/stable/2392495>
- Rosenbaum, J. E. (1990). Structural Models of Organizational Careers: a Critical Review and New Directions. In R. L. Breiger (Ed.), *Social Mobility and Social Structure* (pp. 272–307). Cambridge: Cambridge University Press.
- Sanchez, J. I., & Levine, E. L. (2009). What is (or should be) the difference between competency modeling and traditional job analysis? *Human Resource Management Review*, 19(2), 53–63. <https://doi.org/http://dx.doi.org/10.1016/j.hrmr.2008.10.002>
- Singh, P. (2008). Job analysis for a changing workplace. *Human Resource Management Review*, 18(2), 87–99. <https://doi.org/10.1016/j.hrmr.2008.03.004>
- Slichter, S. H., Healy, J. J., & Livernash, R. E. (1960). *The impact of collective bargaining on management*. Washington D.C.: The Brookings Institution.
- Sonnenfeld, J. A., & Peiperl, M. A. (1988). Staffing Policy as a Strategic Response: A Typology of Career Systems. *The Academy of Management Review*, 13(4), 588–600. Retrieved from <http://www.jstor.org/stable/258377>
- Stewart, G. L., & Carson, K. P. (1997). Moving beyond the mechanistic model: An alternative approach to staffing for contemporary organizations. *Human Resource Management Review*, 7(2), 157–184. [https://doi.org/10.1016/s1053-4822\(97\)90021-8](https://doi.org/10.1016/s1053-4822(97)90021-8)
- Stewman, S. (1986). Demographic Models of Internal Labor Markets. *Administrative Science Quarterly*, 31(2), 212–247. Retrieved from <http://www.jstor.org/stable/2392789>
- Stewman, S., & Konda, S. L. (1983). Careers and Organizational Labor Markets: Demographic Models of Organizational Behavior. *The American Journal of Sociology*, 88(4), 637–685. Retrieved from <http://www.jstor.org/stable/2779480>

- Stewman, S., & Yeh, K. S. (1991). Structural Pathways and Switching Mechanisms for Individual Careers. *Research in Social Stratification and Mobility*, 10, 133–168.
- Tzabbar, D. (2009). When Does Scientist Recruitment Affect Technological Repositioning? *Academy of Management Journal*, 52(5), 873–896.
<https://doi.org/10.5465/amj.2009.44632853>
- Vroom, V. H. (1964). *Work and Motivation*. New York: Wiley.
- Waldman, M. (1984). Job Assignments, Signaling, and Efficiency. *Rand Journal of Economics*, 15(2), 255–267.
- Waldman, Michael. (1990). Up-or-Out Contracts: A Signaling Perspective. *Journal of Labor Economics*, 8(2), 230–250. <https://doi.org/10.1086/298221>
- White, H. C. (1970). *Chains of Opportunity: System Models of Mobility in Organizations*. Cambridge, MA: Harvard University Press.
- Williamson, O. E., Wachter, M. L., & Harris, J. E. (1975). Understanding the Employment Relation: The Analysis of Idiosyncratic Exchange. *The Bell Journal of Economics*, 6(1), 250–278. Retrieved from <http://www.jstor.org/stable/3003224>

FIGURE 1: CHARACTERISTICS OF JOB-PULL AND PERSON-PUSH SYSTEMS

	Job-Pull	Person-Push
Nature of Underlying Jobs	Narrowly defined, semi-stable sets of tasks	Broadly defined, frequently changing mix of tasks
Triggers for Mobility	Presence of identified vacancy	Regular employee review processes
Main Decision Criteria	Fit of candidates with needs of job	Employee attainment of necessary performance/skill thresholds
Canonical Examples	Line managers Clergy	Lawyers Research scientists

FIGURE 2: DETERMINANTS OF MOBILITY PROCESSES

	Factors Promoting Job-Pull Systems	Factors Promoting Person-Push Systems
Focus of Decision Process	<p align="center">Value of Matching</p> <p><i>Quantitative Matching</i> P1: Job-pull more likely when quantitative matching is more important because growth is more difficult or cost control more likely</p> <p><i>Qualitative Matching</i> P2: Job-pull more likely when there is greater heterogeneity in match between people and job demands</p>	<p align="center">Importance of Promotions as Reward</p> <p>P4: Person push more likely when promotions more important as a reward, including when:</p> <ul style="list-style-type: none"> a) Promotions are more effective means of motivating employees b) Vacancies occur irregularly c) Retaining high performers more important to organizational performance
Basis of Job Design	<p align="center">Need for Control</p> <p>P3: Job-pull more likely when controlling conflict is more important due to diversity in interests</p>	<p align="center">Need for Flexibility</p> <p>P5: Person-push more likely when flexibility is important due to unpredictable and changing environment</p>

FIGURE 3: HOW MOBILITY PROCESSES SHAPE THE DETERMINANTS OF INTRA-ORGANIZATIONAL MOBILITY

	Greater Influence on Mobility in Job-Pull Systems	Greater Influence on Mobility in Person-Push Systems
Focus of Decision Process	Matching P6: Exit of other workers has greater effect on mobility (career interdependence) in job-pull systems P7: Organizational growth rates have greater effect on mobility in job-pull systems	Rewards P9: Individual performance has greater effect on promotion in person-push system
Basis of Job Design	Control P8: Less influence of individual power on promotion rates in job-pull systems	Flexibility P10: Less influence of pressures for adaptation on mobility in person-push system