Testing alternate predictions for the performance consequences of middle managers' discretion

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Abstract:

Although discretion among employees at organizations' lower levels seems to be increasing, it is uncertain whether this is a desirable HRM policy. To understand this issue better, this study tests competing organization theory predictions about the performance consequences of middle managers' perceived discretion. Discretion is defined as the freedom of action or decision authority available in managing subordinates. Survey data from a multinational, European sample of research and development (R&D) units were used to assess the effect of managers' perceived discretion on unit performance. The results show that a combination of ecology theory and strategic choice theory best predicts the relationship between discretion and unit performance. Greater perceived managerial discretion was linked to increased unit performance in a relationship moderated by managerial experience and limited by unit size. These findings have implications for HRM theory and practice, particularly regarding policies related to empowerment and leadership development.

Keywords: agency theory | international survey | discretion | management | performance | population ecology | R&D | strategic choice

Article:

The idea of a flat or flexible organization is well established in the larger business community and popular press (Coulson-Thomas & Coe, 1991; Dastmalchian & Blyton, 1998). Flat organizations increase the discretion of lower-level managers and line employees by simplifying the organization's structure, reducing hierarchy, and minimizing rules to provide more freedom and control at work (Joyce, 2005). Many observers have credited increased discretion in flat organizations with a range of desirable outcomes, including agility, creativity, initiative, responsiveness, speed, innovation, and knowledge creation (e.g., Aghion & Tirole, 1997; Chow, 1998; Mathieu, Gilson, & Ruddy, 2006; Perry, 1995; Svelby, 1992). Indeed, it has been suggested that flat organizing is inevitable, that it will become the dominant organizational form, and that lower-level managers are therefore the leaders of the future (Malone, 2004).

Flat organizing is familiar to HRM practitioners. It is typically implemented through empowerment practices that increase discretion at lower levels by shifting responsibility and influence down the hierarchy (Mathieu et al., 2006; Wood & Wall, 2007). This includes practices such as high-involvement work systems and other forms of employee participation (e.g., Ciavarella, 2003; Lawler, 1992; Pfeffer, 1998; Shih, Chiang, & Hsu, 2006). Moreover, consistent with the positive outcomes the general business community attributes to flat organizing, research has linked HRM practices on empowerment and participation repeatedly with gains in employee attitudes and subsequent performance (e.g., Alge, Ballinger, Tangirala, & Oakley, 2006; Guthrie, 2001; Kirkman & Rosen, 1999; Peccei & Rosenthal, 2001; Vlachos, 2008). In fact, a recent meta-analysis of empowering HRM practices found strong positive relationships with performance (Subramony, 2009).

On the surface, these arguments seem to suggest that increased discretion for all employees is an HRM policy that all organizations should pursue. The situation may not be that straightforward, however, for several reasons. First, most traditional HRM practices are based on an assumption of function-based departments and vertical authority (Jackson & Schuler, 1999; van Sluijs, can Assen, & den Hartog, 1991), which could lead to issues of misfit between existing policies and increased discretion (Lengnick-Hall, Lengnick-Hall, Andrade, & Drake, 2009; Werbel & DeMarie, 2005). Second, and even more important, there is reason to question the value of maximizing employee discretion (e.g., Lee, 1998). The benefits revealed in previous research typically contrast some discretion with none and do not address the matter of how much discretion to provide or when it will be most beneficial; there may be limits to the gains realized from increasing discretion. HRM policy, therefore, needs an informed perspective to use in judging how much discretion is appropriate.

These concerns are especially true of middle managers, whose position of relative authority gives their discretionary actions more influence than those of front line workers. Consistent with this thought, some researchers have expressed skepticism about flattened hierarchy (e.g., Gittell, 2000), and evidence suggests that simply providing more discretion does not necessarily produce benefits (Maynard, Mathieu, Marsh, & Ruddy, 2007). Further, many employees in recently flattened hierarchies appear to be unhappy with the change. Anecdotal reports suggest that middle managers often make poor use of the increased discretion that the flattening provides (e.g., Heuer, 2003; Kruger, 1996; Sinofsky, 2005). Given these dissenting views, it is not clear how much benefit organizations should expect from increasing the discretion of middle managers.

Unfortunately, organization theory is also ambivalent about the effects of increased managerial discretion; therefore, it does not offer clear guidance for HRM. Research evidence has clearly shown that discretion benefits the individuals who have it, because discretion has been linked to improved well-being, physical health, and job satisfaction (e.g., Conte, Dean, Ringenbach, Moran, & Landy, 2005; Ganster, 1989; Karasek, 1990). It is less clear, however, under what conditions increased discretion creates performance benefits beyond those to the recipient (however, see Rank, Carsten, Unger, & Spector, 2007). In fact, key organizational theories make conflicting predictions on this issue. Ecology theory suggests that managerial discretion is irrelevant to organizational performance; agency theory predicts that managerial discretion may reduce performance; and strategic choice theory presumes that managerial discretion can

increase performance. While these are simplified statements of complex theoretical positions, they highlight organization theory's equivocality about the performance implications of managerial discretion. Current theory simply does not provide consistent guidance for HRM decisions about choosing the appropriate level of discretion for middle managers.

To help resolve this issue, this study tests the conflicting predictions of ecology, agency, and strategic choice theories about the performance consequences of middle managers' discretion. This is consistent with the recommended approach of using established organization theory perspectives to understand HRM outcomes (Watson, 2007; Wright & McMahan, 1999). This study follows the recommended best practice of using multiple theoretical lenses to maximize explanatory power (Jackson & Schuler, 1999; Watson, 2007). The result integrates these theoretical lenses to provide guidance for HRM decisions about how much discretion to give to middle managers.

Perceived Managerial Discretion

Discretion is the freedom of action available to an individual (March & Simon, 1958; Williamson, 1963). Managerial discretion, therefore, is managers' freedom to manage in the way that they deem most appropriate (Hambrick & Finkelstein, 1987). For middle managers, discretion is the latitude of action or freedom of choice available when establishing the unit's work (see Simon, 1951). For example, consider a manager whose actions are monitored closely and often overruled by organizational superiors. This individual has little discretion, particularly compared to a manager who is mostly unsupervised. Similarly, a manager who must satisfy lengthy and detailed requirements has relatively little discretion compared to a manager who is given only vague goals and complete freedom in pursuing them. In simplest terms, managerial discretion is the degree of freedom managers have in doing their work. When managers have both formal and practical control over their own and their subordinates' work, they have high discretion (see Aghion & Tirole, 1997).

This paper focuses on *perceived* managerial discretion, as distinct from *objective* managerial discretion. Most prior work has focused on objective managerial discretion, especially as derived from formal organizational structures and industry characteristics (e.g., Dobbin & Boychuk, 1999; Hambrick & Abrahamson, 1995; Hendrickson & Harrison, 1998; Magnan & St-Onge, 1997; Olk & Elvira, 2001; Perrone, Zaheer, & McEvily, 2003; Shalley, 1991; Zohar & Luria, 2005). This previous research has explained how structural and environmental features offer varying levels of discretion to managers. For example, the long-term investment required in capital-intensive industries tends to limit managerial discretion, while industry growth provides a munificent environment and greater discretion (Finkelstein & Boyd, 1998).

All managers, however, do not respond identically to a given environment; indeed, individual perception mediates the effect of objective discretion. For example, imagine a hypothetical industry and organization that provide enormous discretion to managers, allowing them to pursue a range of possibilities. In this situation, if a particular manager fails to recognize this freedom, then his or her behavior will not reflect the objective discretion available. Likewise, a manager who perceives more discretion than is actually available may waste organizational resources on fruitless efforts. This is consistent with the basic assumption that employee perceptions and

responses link HRM practices and behavioral outcomes (Boselie, Dietz, & Boon, 2005). Moreover, the mediating role of perception is supported by research evidence showing perceived discretion to be the better predictor of managerial behavior (Carpenter & Golden, 1997). Research on employee job control has likewise shown that perceived control is more closely related to behavior than is objective control (Ganster, 1989).

As such, this study examined the effect of perceived managerial discretion on unit performance. In doing so, it contributes at the border between micro and strategic HRM (Boxall, Purcell, & Wright, 2007). Examining how an individual manager's perception of the organizational context influences unit-level performance provides a link between individuals and collectives (Tichy, Fombrun, & Devanna, 1982).

Theoretical Paradigms and Hypotheses

Perceived Managerial Discretion and Performance

Ecology theory, agency theory, and strategic choice theory advance conflicting predictions about the effect of perceived managerial discretion on unit performance. The conflict arises from different assumptions about managers' efficacy and motivation. This section summarizes each theoretical perspective, with its assumptions and resulting prediction, and then describes several moderators that the theories suggest will influence the relationship between discretion and performance (see Table I).

Table I. Summary of Theoretical Paradigms

Theoretical Lens	Ecology Theory	Agency Theory	Strategic Choice Theory
Assumption about managerial efficacy	Limited: Managers cannot have consistent effects on organizational outcomes.	Managers can and do influence organizational outcomes.	Managers can and do influence organizational outcomes.
Assumption about managerial motivation	Unimportant, because managers are assumed to have limited effects, regardless of motivation.	Managers have self-serving motivations, such that discretion may be used to subvert organizational goals.	Managers have organization-oriented motivations and will use their discretion to pursue organizational goals.
Consequence of managerial discretion	None.	Reduced performance.	Increased performance.
Special considerations	*Organizational age* and unit size each influence both performance and discretion, creating the illusion of a relationship between discretion and performance.	*Functionally similar units* and *organizational commitment* each reduce the threat of managers' misusing discretion.	*Education* and *experience* increase the benefits from discretion.
HRM implication	Primary HRM function is to align internal structures for fit with environmental demands.	Primary functions of HRM are to (1) create incentives that reduce opportunism and (2) provide information to reduce asymmetry.	Primary function of HRM is to recruit and develop appropriate human capital to pursue strategic objectives.

Ecology Theory

Ecological theories of organization explain changes in organizational populations by applying the logic of evolution and natural selection to organizational phenomena (Baum, 1996; Singh & Lumsden, 1990). While these theories are concerned primarily with diversity in organizational populations, they are premised on strong assumptions about managerial efficacy and, by implication, the link between managerial action and performance. Although ecology theory is not typically mentioned in discussions of HRM-relevant frameworks (e.g., Wright & McMahan, 1999), this theoretical paradigm has been shown to provide useful insights into HRM processes (e.g., Boyne & Meier, 2008; Gong & Chang, 2008; Welbourne & Andrews, 1996). The ecological metaphor is particularly useful as a way to think rigorously about the internal organizational environment in which HRM practices act (Boyne & Meier, 2008; Jackson & Schuler, 1995).

An important commonality among the variants of ecology theory is the assumption that intentional managerial action is relatively unimportant. Some ecological theories treat organizations as inert, precluding managerial influence (e.g., Hannan & Freeman, 1977). Others hold that managers might create change in organizations but assume that such changes are either a deterministic result of structural forces or of limited benefit to the organization (Carroll, 1988; Hannan & Freeman, 1984). The common theme is that external or structural forces are so powerful that managers cannot possibly have any systematic effect on organizations (e.g., Gong & Chang, 2008; Welbourne & Andrews, 1996). Ecology theory therefore assumes that intentional managerial action is impossible, externally determined, or effectively no better than random variation. Given this theoretical paradigm, there should be no consistent relationship between managerial discretion and performance. Thus:

Hypothesis 1a: Perceived managerial discretion is unrelated to unit performance.

Agency Theory

Where ecology theory understands organizations through an analogy to biological life, agency theory treats an organization as a system of contracts among individuals. Owners and investors (principals) delegate authority to managers (agents), who act on their behalf (Fama, 1980; Jensen & Meckling, 1976). The agency theory perspective has been highly influential in economic and organizational studies (e.g., Aghion & Tirole, 1997; Ghoshal, 2005; Shapiro, 2005) and has been recognized as a potentially valuable perspective for HRM research (e.g., Jackson & Schuler, 1999; Wright & McMahan, 1999). Despite this, a recent review was unable to identify any HRM-focused empirical studies assessing agency theory (Boselie et al., 2005), although one early working paper demonstrated the value of agency theory, finding support for several of its HRM-related predictions (Welbourne & Cyr, 1996).

Regarding the issue of managerial discretion, agency theory posits that principals need to be highly concerned with how agents act, because agents are likely to have personal interests that conflict with those of the principals (Bottom, Holloway, Miller, Mislin, & Whitford, 2006). These personal interests cause agents to use their discretion to pursue personal goals, rather than the principals' or organizations' goals (Kiser, 1999). In other words, agency theory assumes that the more discretion managers have, the more they can divert organizational resources away from

performance toward personal goals. Managerial discretion should therefore reduce performance. Thus:

Hypothesis 1b: Perceived managerial discretion reduces unit performance.

Strategic Choice Theory

Like agency theory, strategic choice theory assumes that managers can create meaningful change in organizations. Where agency theory assumes managers will use this power for personal gain at the expense of the organization, strategic choice theory assumes that managers will use discretion to benefit the organization (Child, 1972; Hrebiniak, 1974; Keats & Hitt, 1988). This perspective has dominated HRM research and is premised on the assumption that well-prepared managers will make situationally appropriate responses to the dynamic challenges that arise during organizational operations (Boselie et al., 2005; Capelli & Singh, 1992; Jackson, Schuler, & Rivero, 1989; Wright & Snell, 1998).

In contrast to agency theory, which traditionally does not recognize organizations as entities in themselves (Fama, 1980), strategic choice theory considers the importance of issues such as promotion opportunity, organizational commitment, and job dependence, all of which can motivate managers to act on behalf of the organization. A manager's fate is tied to the organization's fate if no other job prospects are available. Likewise, benefiting the organization can lead to promotions that benefit the manager. Such considerations lead strategic choice theory to predict that managers want their organizations to succeed. As such, managerial discretion should increase performance by allowing managers to adjust to changes in a dynamic environment (Dastmalchian & Blyton, 1998; Lepak, Marrone, & Takeuchi, 2004; Marlin, Lamont, & Hoffman, 1994). Thus:

Hypothesis 1c: Perceived managerial discretion increases unit performance.

Moderators of Discretion's Effect

The three alternate versions of Hypothesis 1 are relatively simplistic. While each theory rests on basic assumptions about managerial behavior, each theory also qualifies its assumptions with significant contingencies. These contingencies lead to several important moderators, described in this section. Although tests of moderating effects are relatively rare in HRM studies (Boselie et al., 2005), such interactions are essential to accurately test the theories in question and contingency models in general (Lengnick-Hall et al., 2009; Schuler & Jackson, 1987).

Age

A fair test of ecology theory requires controlling for potential spurious correlations between managerial discretion and unit performance. Ecology theory predicts that discretion has no effect on performance, but other factors might simultaneously influence both discretion and performance. Organizational age is one such factor (Boselie et al., 2005). Age has consistently been found to predict organizational success and survival (Freeman, 1984). Newness has several disadvantages: the time spent learning and creating routines is directed away from immediately

productive behavior (Stinchcombe, 1965); social networks have yet to be established so one must rely on the goodwill of strangers (Freeman, Carroll, & Hannan, 1983); and newness precludes having a reputation for reliability and predictability, which are preferentially selected for by the environment (Hannan & Freeman, 1984). These disadvantages combine to make newness a significant liability. At the same time, the lack of routines and formal procedure associated with newness could increase managerial discretion, because formal structure has been shown to reduce freedom (Zohar & Luria, 2005). As a result, age should predict both increased performance and decreased discretion. Thus:

Hypothesis 2a: Organizational age increases unit performance.

Hypothesis 2b: Organizational age is negatively associated with perceived managerial discretion.

Size

Another important ecological effect is the liability of smallness (Boselie et al., 2005; Singh & Lumsden, 1990). Smaller size typically means fewer resources. It is also more difficult for small entities to take advantage of economies of scale. In contrast, large size supports the routines and predictability that environmental selection favors (Baum, 1996). Smallness therefore increases the likelihood of failure. At the same time, the lack of routines associated with smallness and the reduced inertia associated with smaller groups could lead to greater managerial discretion (Gong & Chang, 2008; Tushman & Romanelli, 1985; Welbourne & Andrews, 1996; Zohar & Luria, 2005). Thus:

Hypothesis 3a: Unit size increases unit performance.

Hypothesis 3b: Unit size is negatively associated with perceived managerial discretion.

Functionally Similar Units

As with ecology theory, there are important moderators that apply to agency theory. Agency theory predicts that discretion reduces performance, but this is only true when agents act opportunistically. For this study, the most important source of opportunism is information asymmetry; managers may take advantage of their greater knowledge of operational details and their control over the flow of relevant information to pursue their own interests (Jensen & Meckling, 1976; Levinthal, 1988). If the principal is able to acquire information that reduces this asymmetry, however, the principal can prevent the misuse of organizational resources (Fama, 1980; Fama & Jensen, 1983). With regard to middle managers supervising intra-organizational units, the most relevant source of information for principals would be functionally similar units (Wright & McMahan, 1999). If many managers and units are performing a task, they can provide principals with information and knowledgeable assessment (Jones & Wright, 1992). Consistent with this, previous work has shown that the presence of other agents improves the efficiency of the principal-agent relationship (Levinthal, 1988). Thus:

Hypothesis 4: Functionally similar units reduce the negative effect of perceived managerial discretion on unit performance.

Commitment

An important source of agent opportunism is the presumed difference between personal and organizational goals (Fama, 1980; Levinthal, 1988). An extreme example would be a manager who is more concerned with having a large office and an easy work schedule than with the unit's performance. In such a situation, managerial discretion would reduce performance. If the principal and agent share common interests, however, then discretion need not be harmful; the agent is motivated to act as the principal desires (e.g., Welbourne & Cyr, 1996). An important source of such alignment is organizational commitment (Cook & Wall, 1980; Meyer, Becker, & Vandenberghe, 2004). If a manager is committed to pursuing organizational goals, discretion should not reduce performance. Thus:

Hypothesis 5: A manager's commitment to the organization reduces the negative effect of perceived managerial discretion on unit performance.

Expertise

The key contingency of strategic choice theory is the manager's ability to use discretion effectively. Giving a manager more freedom allows his or her unique experiences, perspectives, and management style to have more influence on outcomes (e.g., Paauwe & Boselie, 2005). Therefore, even if it is generally true that increased discretion benefits performance, the extent of the benefit will vary by manager. How a manager uses discretion determines its effect on performance (Bass, Avolio, Jung, & Berson, 2003; Peterson, Smith, Martorana, & Owens, 2003). One would expect a talented, skilled manager to use discretion for greater benefit than would a manager with less ability. It is for this reason that HRM practice stresses the need to have the right people implementing strategy (Carbrera & Bonache, 1999; Wright & Snell, 1991) and why high-performance work systems place so much emphasis on focused recruitment and training (Huselid, 1995; Shih et al., 2006). Thus:

Hypothesis 6: A manager's education increases the positive effect of perceived managerial discretion on unit performance.

Hypothesis 7: A manager's experience increases the positive effect of perceived managerial discretion on unit performance.

Figure 1 illustrates the hypotheses and their relationships based on each theoretical lens. As this figure shows, current organization theory offers conflicting advice about the optimal level of discretion for middle managers. To advance HRM practice and theory, these competing hypotheses were tested in a multinational sample of unit managers.

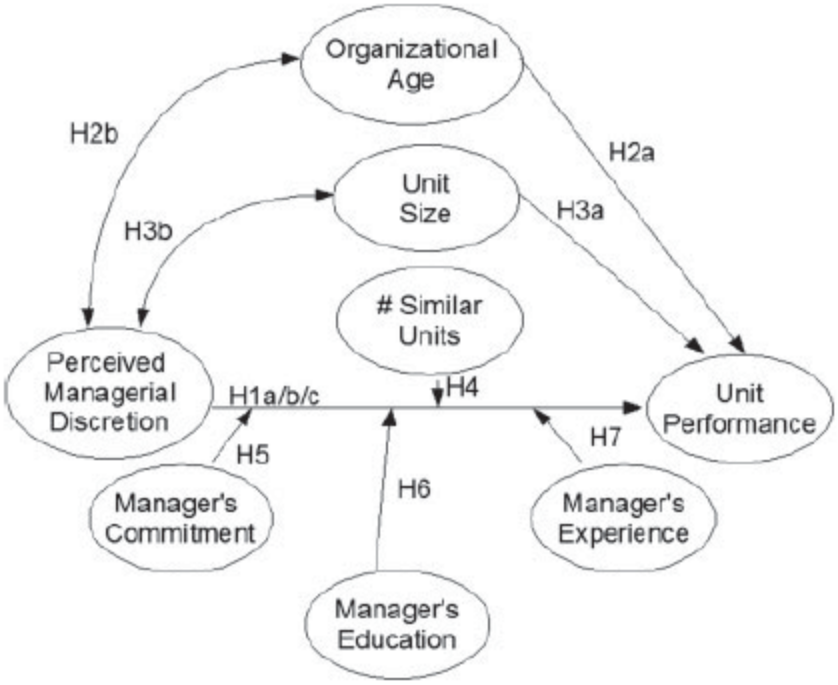

Figure 1. Summary of competing hypotheses concerning the effect of middle managers' perceived discretion on unit performance

Method

Sample

This paper used data from the International Comparative Study on the Organization and Performance of Research Units (Knorr et al., 1999). This was a large-scale survey project initiated by six European countries and conducted by the Secretariat of the United Nations Educational, Scientific, and Cultural Organization (UNESCO). UNESCO is a specialized agency of the United Nations that is responsible for collecting and sharing information. The International Comparative Study was undertaken to help the participating national governments understand the organization and performance of scientific research in their countries.

In each country, a research team administered standardized questionnaires to a representative sample of approximately 200 research and development (R&D) units. All units met three criteria for participation: (1) they had a manager who was a participating member; (2) they had at least three members in regular communication with one another; and (3) they had an expected duration of at least one year. The final sample included responses from 1,222 units in nine different scientific fields.

This paper used a subset of this data based on four conditions. First, the subset included only five scientific fields (chemistry, 25%; life sciences, 22%; agriculture, 14%; technology, 31%; and medical science, 8%). The other four fields had few responses and limited distribution among countries. Second, the selected units were all semi-autonomous units within larger organizations (i.e., independent and inter-organizational units were excluded). There were five types of larger

organizations: universities (39%); university-affiliated research centers (11%); non profit or public service organizations (25%); commercial enterprises (19%); and federal or state research bodies (6%). Third, the subset included only units with an external superior who was familiar with the unit's work. Finally, each unit was from a different organization (i.e., units were independent). The resulting sample consisted of 718 units, drawn from all six countries: Hungary (26%), Austria (21%), Finland (18%), Sweden (8%), Poland (20%), and Belgium (7%).

Measures

Unless otherwise stated, items were measured with 5-point scales of increasing strength or agreement.

Unit Performance

Unit performance was measured with four items, one each concerning innovation, quality, success in reaching R&D goals, and contribution to the scientific field. The organizational superior responsible for evaluating the unit's performance provided these ratings. Details of the exact relationship between evaluator and unit were not specified and presumably varied by unit and organization type. Unit managers, however, indicated whether they felt the evaluator in question was familiar with the work of the unit. To ensure the validity of the performance measure, the analysis described here included only units where the manager indicated good familiarity on the part of the evaluator.

Perceived Managerial Discretion

Managers rated their freedom and control in four areas (one item each): use of training resources, hiring, firing, and assigning specific tasks in the unit. Managers reporting greater control in these areas were assumed to perceive themselves as having more discretion. For example, consider assigning unit tasks. If managers feel free to determine which tasks subordinates undertake, then they feel freer to manage the unit's work. Such freedom is discretion: The manager has latitude of action.

Organizational Age

Managers reported the age of their organization in years. A logarithmic transformation was used to reduce positive skew.

Unit Size

Each manager reported how many scientists he or she supervised in the unit. This number was log-transformed to reduce positive skew.

Number of Functionally Similar Units

Managers reported the number of units in the organization that performed "the same or similar" work. To reduce positive skew in the distribution, the analysis used a square-root transformation of the reported counts.

Manager's Commitment to the Organization

Organizational commitment was measured by reverse scoring a single item about the manager's intention to leave the unit. Responses ranged from "I rarely ever consider leaving" to "I would leave if I had a suitable opportunity" using a 5-point scale. Reverse scoring created a measure of the manager's intention to stay. While this measure fails to distinguish the nature of the organizational commitment (i.e., affective, continuance, or normative; Meyer & Allen, 1997), it does reflect the extent to which managers consider their fate is entwined with the organization and will thus feel more committed.

Managers' Expertise

Managers reported their years of full-time equivalent education, including post-graduate work and their total years of R&D experience, as measures of education and experience, respectively. It should be noted that these measures assess scientific expertise. The data did not indicate their managerial expertise (e.g., business education or years in management).

Analysis

The data had many missing values; only 489 cases (68%) had complete data. The largest missing data rate for any one variable, however, was only 11% (rates of missing data are listed in Table II). Such cases of missing data are best addressed through multiple imputation (see Schafer, 1999, for an overview), rather than case deletion or mean substitution (Schafer & Olsen, 1998). Simulation studies have shown that deletion and mean substitution often generate biased, inefficient estimators (Little & Rubin, 1987; Wothke, 2000). The results in this paper were derived by aggregating 10 imputed data sets (see Schafer & Olsen, 1998).

Analysis was conducted using maximum likelihood structural equation modeling (SEM). The common moderation-testing approach of using multiple group comparisons was unworkable, however, because of the need to test four continuous moderators simultaneously (Raykov & Marcoulides, 2000). Therefore, the approach suggested by Ping (1995), which allowed simultaneous testing of all moderated relationships, was used.

Results

Table II provides descriptive statistics for all variables. Analysis began by confirming the convergent and discriminant validity of the measures (Kline, 1998). Beta coefficients between latent factors and their indicators were all .5 or greater; the absolute values of correlations among latent factors were all less than .3; and the model fit with the data was moderate (χ^2 81 = 318.58; χ/df = 3.93; SRMR = .08; CFI = .89; RMSEA = .06), based on Hu and Bentler's (1999) combinatorial criteria.

Table II. Descriptive Statistics and Correlations

Variable	Mean	SD	1	2	3	4	5	6	7	%Missing
1. Unit performance	15.94	2.21	(.87)							0.3
2. Perceived managerial discretion	16.12	3.53	.07	(.71)						8.5
3. Organization age	91.35	130.66	.03	.19*						2.4
4. Unit size	7.50	11.29	.07	.12*	–.02					2.9
5. Functionally similar units	1.70	3.22	.01	–.07	–.05	–.05				4.2
6. Manager's commitment	4.22	1.07	.00	.23*	.09*	–.03	.02			1.7
7. Manager's education	19.86	3.45	–.01	.07	.03	.00	–.01	–.01		11.1
8. Manager's experience	19.49	9.45	.06	.16*	.14*	.19*	.05	.24*	.11*	0.7

Notes: N = 718; Cronbach's alpha on diagonal.*$p < .05$

The next stage of analysis fit the theorized structural model with moderation terms and all direct paths. Based on modification indexes, a correlation was added between the discretion*commitment and discretion*experience moderation terms. This addition did not change any of the results or relationships among study variables, but it did increase the model's fit with the data, which was acceptable (χ^2 126 = 294.71; χ^2/df = 2.34; SRMR = .05; CFI = .93; RMSEA = .04).

This base model was compared to six alternative models, which included control variables for the unit's scientific field, nation, or type of organization, as well as possible interaction terms (see Table III). For example, the first alternative model included observed predictor variables for each scientific field (dummy coded: chemistry yes/no, life science yes/no, etc.). The second alternative model included the field and field*discretion interaction terms to test whether the scientific field influenced the link between discretion and performance (e.g., does managerial discretion affect a chemistry unit's performance differently than an agricultural unit's?). These features of work context are not directly relevant to the hypotheses, but previous evidence suggested they could influence discretion in R&D units (e.g., Cheng, 1983; Dobbin & Boychuk, 1999).

Table III. Alternative Model Comparisons

Model	$\chi^2(df)$	$\Delta\chi^{2*}(df)$	χ^2/df	SRMR	CFI	RMSEA
Base (consistent with all hypotheses)	294.71 (126)		2.34	.05	.93	.04
Without correlated interaction terms	386.94 (127)	92.23 (1)	3.05	.06	.89	.05
Including scientific field	1172.59 (200)	877.88 (74)	5.86	.07	.69	.08
Including scientific field and interaction with discretion	2018.33 (289)	1723.62 (163)	6.98	.09	.57	.09
Including nation	2258.63 (221)	1963.92 (95)	10.22	.10	.52	.11
Including nation and interaction with discretion	3523.81 (340)	3229.10 (214)	10.36	.11	.44	.11
Including organization type	2058.68 (200)	1763.97 (74)	10.29	.09	.54	.11
Including organization type and interaction with discretion	3140.48 (289)	2845.77 (163)	10.87	.10	.46	.12

Note: **All* $\Delta\chi^2$ $p < .05$

Model comparisons, however, showed that the addition of work context variables did not improve the analysis. There were some direct effects from contextual features (e.g., medical units had higher average performance ratings than units in any other field, $p < .05$), but there were no significant interactions between work context and managerial discretion, and the results of individual hypothesis tests were substantively unchanged by including the work context variables. Moreover, all of the alternative models had a significantly worse fit with the data. For parsimony, the base model is reported here, without including work context variables.

Regarding perceived managerial discretion's direct effect on performance, the results supported H1a and thus failed to support H1b and H1c. There was no direct effect ($p = .17$) consistent with ecology theory prediction. The other hypotheses from ecology theory received mixed support. H2 was not supported. There was no association between organizational age and unit performance (H2a, $p = .20$). In addition, the significant correlation between organizational age and perceived managerial discretion was positive, rather than the predicted negative (H2b, $r = .19$; $p < .05$). In contrast, unit size did predict unit performance as hypothesized (H3a, $p < .05$). There was also a significant correlation between unit size and perceived managerial discretion, but it was positive, rather than the predicted negative (H3b, $r = .12$; $p < .05$).

The agency theory predictions received no support. The number of functionally similar units did not affect the relationship between perceived managerial discretion and unit performance (H4, $p = .43$), nor was the relationship altered by managerial commitment (H5, $p = .17$). The predictions derived from strategic choice theory had mixed support. H6 was not supported; managerial education did not influence the link between discretion and performance ($p = .78$). Hypothesis 7, however, was supported. As predicted, managerial experience had a positive moderating effect on the relationship between perceived managerial discretion and unit performance ($p < .05$).

All direct effects outside the hypotheses were non-significant. That is, unit performance was not predicted by the number of functionally similar units ($p = .78$), managerial commitment ($p = .44$), managerial education ($p = .64$), or managerial experience ($p = .07$). Figure 2 summarizes these results by presenting the significant predictors of unit performance.

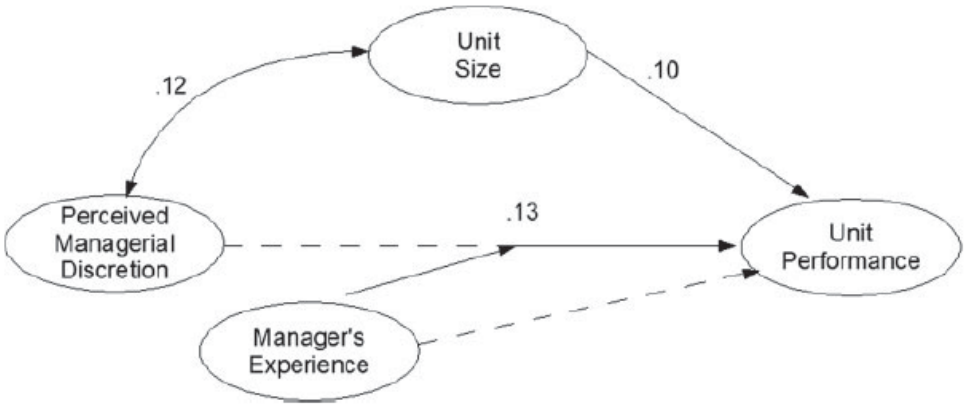

Figure 2. Summary of the factors influencing the effect of perceived managerial discretion on unit performance

Note: All standardized regression and correlation coefficients, $p < .05$.

Discussion

Popular and academic opinions seem to favor flattening organizational structures to increase the discretion of lower-level employees (e.g., Malone, 2004; Subramony, 2009). Nonetheless, reservations have been expressed about increasing discretion, particularly for middle managers (e.g., Gittell, 2000; Heuer, 2003). This difference of opinion suggests that important moderators exist in the benefits gained from increasing middle managers' discretion, making discretion more effective in some situations than in others (Aghion & Tirole, 1997). This paper investigated such contingencies as a way to advance HRM theory and inform its practice in the current era of devolving authority and reduced hierarchy.

The results from a multinational sample of R&D units indicate that middle managers' perceived discretion does influence unit performance, but does so in a contingent manner. Managers' discretion had no direct effect on performance, but there was a significant interaction between discretion and experience: Experienced managers who reported higher discretion also had better performing units. The most likely explanation of this finding is that managerial discretion benefits unit performance only when the manager has sufficient experience to effectively use it. For example, contrast two hypothetical managers of a pharmaceutical R&D unit. The first is a 30-year veteran of multiple projects and several corporate mergers; the second is a recent graduate from the country's leading PhD program. Both are capable scientists, and both are given great discretion by their superiors. It seems clear that the first manager, with 30 years of experience, will be better able to use discretion to benefit the unit. The PhD graduate, having limited management experience, is unlikely to use the freedom optimally. This contingent benefit is consistent with established relationships in previous research (Lengnick-Hall et al., 2009; Schuler & Jackson, 1987; Wright, Smart, & McMahan, 1995) and underscores the recognized need to have the right people and skills in place to pursue strategic objectives (Lepak et al., 2004; Wright & Snell, 1998).

The results also showed that structural forces had important influences on managerial discretion. There were positive relationships among unit performance, unit size, and managerial discretion. As a result, both ecology theory and strategic choice theory are important for understanding discretion in organizations. Structural forces were important but did not preclude managerial influence. Given this, managerial discretion might be best described as effective adaptation within environmental constraints (e.g., Boyne & Meier, 2008). This process has been called *differentiation* to distinguish it from pure ecological selection and unfettered strategic choice (Hrebiniak, 1974). In terms of using established organization theories to understand HRM outcomes, these findings suggest that ecology theory and strategic choice are both relevant perspectives. In other words, both intentional and institutional factors are influential in determining HRM outcomes, and therefore both need to be considered when setting policy (Foss, 2007; Wright & McMahan, 1999).

Theoretical Implications

An important theoretical aim of this paper was to test the competing predictions of different organization theories. The results showed that ecology theory had partial predictive success. The

liability of smallness was observed, but there was no liability of newness. This is consistent with previous unit-level examinations of ecology theory, which also found that the liability of newness did not apply to intra-organizational units (Usher & Evans, 1996). This pattern may indicate that age is not useful as a proxy measure for intra-organizational processes. The liability of newness derives from lack of established routines, lack of social network connections, and lack of reputation, with organizational age having been shown to correlate with these at an organizational level. When making a more fine-grained analysis of intra-organizational units, however, age may be too crude a measure. For example, if a new unit is composed of the most established experts in the organization, it will immediately have network connections and reputation, and perhaps even routines (see Bettenhausen & Murninghan, 1985). In this case, organization age and unit age would both be poor measures. Instead, investigations of ecology theory would need to assess the underlying issues directly (e.g., presence of routines, network connections). Further research is required to confirm this, but it suggests how ecology theory may need to be modified when applied to intra-organizational units.

Strategic choice theory also had mixed predictive success. The data confirmed the importance of managerial experience, but there was no relationship, direct or moderated, between managerial education and unit performance. This might suggest that practical experience is more important than formal training when managers exercise discretion (e.g., Dreyfus & Dreyfus, 1986). An equally likely explanation, however, is that the sample lacked sufficient variance. Almost all managers had advanced graduate degrees; the mean was more than 19 years of formal education. Beyond a certain point, however, more years of schooling may provide little performance benefit. Examining the education-discretion-performance relationship in a more educationally diverse population could resolve this matter. It would also be useful to include a measure of management-specific education (e.g., MBA degree).

In contrast to the mixed success of ecology theory and strategic choice theory, the agency theory predictions received no support. One explanation may arise from the assumption of opportunism: The agency theory predictions only apply to managers who would exhibit selfish or shirking behavior. Doubts about the assumption of opportunism are not new (Bottom et al., 2006; Perrow, 1986) but seem worth restating, given the cultural and intellectual dominance of agency theory (Zajac & Westphal, 2004). As an analytic tool, agency theory has generated many useful insights (Shapiro, 2005), but the results presented here question its utility as an explanatory theory of unit-level outcomes (also see Ghoshal, 2005).

An alternate interpretation would be that these results are unique to the particular research context for numerous reasons. Although early statements of agency theory stressed that its predictions apply at all levels (Jensen & Meckling, 1976), it has since been described as most useful for senior management (Jackson & Schuler, 1999). Agency theory may simply be less useful when considering middle managers. The second consideration is the unique nature of R&D work. The uncertain and creative task of R&D could combine with the incumbents' high levels of skill and education to create intrinsic motivation (Csikszentmihalyi, 1996). In other words, R&D work may be inherently interesting enough to counter agent opportunism. Similarly, because of the nature of R&D work, it may be that principal control is not desirable. Previous investigations have noted the inherent trade-off between principals' control and agents' initiative (Aghion & Tirole, 1997), and the results here may reflect the fact that the best R&D

results are achieved when principals cede their control to maximize agent initiative and creativity. For these reasons, it remains to be seen whether the observed failure of agency theory to explain unit outcomes generalizes to other work domains.

This paper also extended ecology theory, agency theory, and strategic choice theory through its use of European data. Fears have been expressed about the predominance of North American data sources in organization science (e.g., Palmer, 2006), and this paper responded by examining non–North American units. Although the research was not a cross-cultural study per se, the relative unimportance of national location has potential implications for future comparative work on R&D and managerial discretion. It also suggests the potential international utility of existing organization theory.

Beyond clarifying the theories used in this study, future investigation may also usefully incorporate other theoretical perspectives (Watson, 2007; Wright & McMahan, 1999). While there are many possibilities, among the most promising is the resource-based view of the firm (RBV; Barney, 1991). The RBV is already at the heart of many explanations linking HRM to performance (Allen & Wright, 2007; Barney & Wright, 1998). Moreover, because this study's findings suggest that ecology theory and strategic choice theory offer the most potential insight for understanding HRM outcomes, the RBV's previous success in blending economic and strategic perspectives (Barney, 1991; Jackson & Schuler, 1999) makes it a logical next step in extending this paper's findings.

Study Limitations

The data used in this study have limitations that must be kept in mind when drawing conclusions from the results. Most important, the data were cross-sectional, meaning that cause cannot be proven. Alternative interpretations could apply. For example, ecology theory predicts that larger units enjoy better performance because small units have fewer resources, miss economies of scale, and have less of the stable predictability preferred by environmental selection. Consistent with this prediction, unit size and performance were positively related. However, because the data were cross-sectional, the positive association could have resulted from opposite causality: Units that performed well may have attracted more resources and been able to grow as a result. Because of data limitations, the current analysis cannot distinguish between these two possible explanations. Longitudinal study is thus suggested as a way to distinguish cause from effect.

Another important limitation of this study is its failure to entirely illuminate the black box of HRM processes (see Boselie et al., 2005; Wright & McMahan, 1999). The results strongly suggest that discretion allows experienced managers to increase unit performance, but this study did not measure the exact mechanism by which it does. Strategic management theory suggests that the benefit arises from experienced managers deftly responding to unpredictable events, but the details of these responses remain uncertain. For example, discretion may allow managers to contribute to human capital advantage by giving their staff developmental opportunities or to contribute to organizational process advantage by effectively orchestrating their team's work, or both (Boxall, 1998). It will be informative for theory and practice if future studies investigate the particular means by which experienced managers use discretion to benefit their units.

Practical Implications and Conclusion

The results of this study have clear practical implications. For one, they serve as a reminder to view HRM practices holistically (Wright & McMahan, 1999). Although there has been a progression from examining individual policies to focusing on policy bundles, the results here suggest that there are important dependencies to consider even among such bundles. For example, Subramony's (2009) review suggested that various empowerment-related practices should be viewed as parts of single bundle, and that skill-enhancing practices were similarly best conceived as part of a larger whole. As the results here show, however, the effects of empowerment (i.e., discretion) likely depend on the prior effects of skill enhancement. As such, even at the level of aggregated bundles, HRM policies should probably not be considered independent. The best HRM approach will implement an integrated series of practices that recognize and use the connections among policies. The other striking implication of these results is the need for greater caution about increasing middle managers' discretion. Despite some glowing claims about flat organizations, their universal value seems doubtful in light of this study's findings. The results presented here suggest that many managers' units will not benefit from the increased discretion of flat organizing. As such, a rush to flatten organizational forms may produce poor overall results. If it fails to take the contingencies of structure and experience into account, flatter organizing may simply cause the rich to get richer, because organizations that are already doing well are more likely to have the experienced managers who reap the most benefit from increased discretion.

It seems preferable to take a more sober view of increased discretion. Rather than more discretion everywhere and always, organizations would do better to focus on creating environments and workforces in which discretion will be beneficial. This implies adopting not only the holistic, integrated approach to HRM policy mentioned (e.g., Werbel & DeMarie, 2005; Wright & Snell, 1998), but also the need to intentionally develop experienced managers. The results of this study's test of organization theory suggest that middle managers without sufficient experience will not be able to use their discretion effectively.

Given that leadership development is meant to prepare individuals to guide others effectively, the results presented here underscore the importance of including managerial experience as a part of leadership development. Job rotation and other experience-based practices would seem useful. The most important element, however, in capitalizing on the findings reported here is likely to be mentoring. Rather than giving an inexperienced manager discretion that produces little value, it might be better to have that manager propose what should be done in a discretionary moment, and then have a process for that manager to get feedback on the proposal from a more experienced manager. This would be less work than actually managing for the experienced employee and still leverage his or her experience, while allowing the inexperienced manager to gain experience. The organization would thus enjoy the best of both worlds, with current experience using discretion to benefit the organization and developing greater experience for future use.

With training in place, the obvious next question is how one should influence a middle manager's level of discretion. Although the focus here was on the consequences of discretion (rather than its origins), the use of ecology theory revealed organizational structure as an

important source of middle managers' discretion (also see Huang, 2000; Lawler, Mohrman, & Ledford, 1992). Similarly, looking at the matter from an agency theory perspective, it may be that expertise contributes to discretion by creating greater information asymmetry between principal and agent. As such, it seems an important next step to systematically investigate the antecedents of managerial discretion. In addition, useful insight is likely to result from more precisely defining the scope of a manager's discretion. This study used a general measure of discretion, but intuition and evidence suggest that individuals have varying degrees of discretion in different work domains, and such differences are likely to be consequential (e.g., Aghion & Tirole, 1997; Caza, 2008).

Given the demonstrated practical and theoretical importance of middle managers' discretion, it seems that a better understanding of the phenomenon is in order. Now that we know middle managers' discretion does matter, we need to understand better how that discretion arises. This will allow companies to develop more precise and effective policies.

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