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Comments on the Resource Allocation Process

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It is a pleasure and honor to have the opportunity to comment on this impressive body of work. As a graduate student in the early 1980s, I vividly recall my first reading of the resource allocation process (RAP). Here was a work that tackled one of the principle tasks of a firm: allocating scarce financial capital. The problem had been nominally solved by financial economists, but Bower presented it in a way that both brought forth the richness of the phenomena and provided a clear theoretical framework that illuminated the underlying processes at work. The ultimate test of a piece of scholarship is its ability to influence other scholars.¹ By that standard, as illustrated in this collected volume, the RAP framework is a huge success. Not only has it attracted enormous attention (and citations) from scholars pursuing related topics, but it has generated multiple generations of scholars to build upon and enrich the original framework. As the theoretical structure becomes more elaborated, it may be worthwhile to reflect on the core features of the argument. Doing so, I believe, will help researchers outside the immediate RAP ‘family’ to see the power of the underlying theoretical argument and help embed this literature in the larger literature on organizational decision making and adaptation of which it is a part.

The notion of search is central in the behavioral theory of the firm (March and Simon 1958; Cyert and March 1963). However, the literature tends to emphasize alternative generation—a point powerfully made by Nelson and Winter (1982) in their argument that production sets do not exist a priori, but production techniques must be discovered or invented. Relatively neglected in this literature has been the other facet of search processes—the role of selection. Typically, effective

adaptive efforts are thought of as constrained due to the challenge of identifying more desirable alternatives. However, an equally important constraint is the selection process. Even if a 'thousand flowers' are brought to bloom, if they are selected over by a single type of 'lawn-mower', then the variety being generated will have no effect.

It is to this issue of selection that the RAP framework provides much needed insight and contribution. Yes, lower-level actors may define initiatives; but for those initiatives to take hold and have operational effect within the firm, they must receive support—financial resources, use of a firm's on-going operational infrastructure, managerial and technical staff time and talent, and so on. This perspective on selection also casts the role of upper management in a different light than the classic imagery of command and control. Rather, top management exerts influence by its effect on the selection context in which middle- and lower-level management operate. In this manner, top management influences what Burgelman refers to as the internal ecology of the firm.

Intentionally, rational lower-level managers will, to an important degree, internalize the selection criteria imposed by upper management and generate initiatives that are reasonably consistent with these criteria and thereby stand a fair chance of being endorsed by middle management and ultimately approved. This is what Burgelman refers to as the 'induced' process of initiative creation. Actors also may generate initiatives outside the strategic context of the organization. However, such 'autonomous' initiatives need not be viewed as random variants. Although not induced by some internalization of corporate objectives, these initiatives still are responding to some set of beliefs about what might constitute a valuable initiative.

I think an important extension of the RAP framework, an extension researched most notably by Clay Christensen, is to recognize the role of the structural and strategic context external to the firm. Firms are not operating in a vacuum—they have customers, their scientists and engineers operate in professional communities, and they operate in a regulatory environment. Whether or not the objectives and concerns of these external constituencies are incorporated into the firm's own strategy and selection criteria, they exist and may be quite salient for a number of actors within the firm and, indeed, in some cases more salient than the firms' own objectives. In this sense, autonomous initiatives are not taking place in a vacuum and are not undirected. They are simply other-directed.

A critical tension in corporate entrepreneurship is that whereas 'other-directed' initiatives may be an important mechanism to keep the ecology of corporate initiatives tethered to a number of distinct and

evolving consumer and technical contexts, the firm's own selection environment is likely to be relatively stable across time and is certainly going to be far less heterogeneous than the variegated selection environments of these external contexts (Adner and Levinthal 2002). External selection environments provide niches that both guide and potentially provide resources for internal development.

Even though external contexts may guide the birth and early development of new internal initiatives, ultimately the firm itself must validate and reinforce these efforts. In a dramatic instance, this can take the form of the strategic 'recognition' that Burgelman characterizes in the case of Intel's shift from the memory business to the microprocessor. But in less dramatic fashion, negotiated order between the internal and external selection criteria occurs quite often. The acceptance, or at least tentative acceptance, of a new initiative by the external context becomes an important part of the basis of the internal corporate dialogue and argumentation for further resources. Thus, the basic RAP framework is enacted, but definition is importantly shaped by external forces and, more subtly, impetus may be provided by external reinforcers, such as tentative early success in early stage markets (Adner and Levinthal 2002). Thus, initiatives may be 'induced' both by internal structures, as suggested by the original RAP framework, and by external contexts, as suggested here. Similarly, impetus may take place via a process of internal evaluation as originally suggested, but also may have external elements.

As noted in Eisenmann and Bower's work on the entrepreneurial M-form, top management can not only act as orchestrators of the selection environment, but may also at times define initiatives themselves. Top management in a diversified firm may be uniquely well positioned to identify possibly useful linkages across businesses; it is at the higher level of the organization that the interactions across businesses should be most salient (Gavetti 2003). Although top management may be uniquely well positioned to define certain classes of initiatives, there is an inherent risk in such initiatives to the extent that the dual role of alternative generation and alternative evaluation or selection gets carried out by the same set of individuals. The often frustrating, but in many cases useful, tension between the goals and objectives influencing the definition process and the goals and objectives embedded in the structural and strategic context is absent. The net effect should be that a higher proportion of initiatives defined by top management is enacted, but one would expect the distribution of outcomes to be far more variable than initiatives defined at lower levels of the organization. The history of diversification efforts, and merger and acquisitions

initiatives, in particular, often defined by top management, seem roughly consistent with this argument. This danger of the joint role of definition and selection also may speak to Gilbert's finding that projects framed as threats rather than opportunities tend to be less successful. Newspaper firms that view the Internet as a threat are more likely to engage in initiative definition by higher-level actors than firms that treated the rise of this technology as an opportunity, an opportunity to which lower-level actors might respond and craft initiatives they would then try to shepherd through the resource allocation process.

The more typical hierarchical nature of the resource allocation process in which lower-level actors define initiatives that mid-level managers subsequently might endorse, all of whom operate in structural context influenced by top management, fits well with the dual imperative of search processes to both explore new bases of action and exploit the intelligence of current knowledge. The potentially vast parallel search effort that lower-level definition permits is ideally suited to exploration. A broad set of initiatives may be defined, each of them potentially speaking to a different facet of the internal or external environment faced by that lower-level actor. The resource commitments associated with each of these initiatives is likely to be relatively modest. Indeed, in many cases, it is likely to consist of time and operational resources unofficially 'borrowed' from existing previously endorsed initiatives. The firm's internal selection environment then slowly shifts through this rich array of initiatives. This process might in part be political and reflect the power and status of different individuals and subunits within the firm; in part reflect some degree of external validation, possibly in the form of willing customers for prototype products and services; or reflect a more analytical discourse of forecasts of promising outcomes and their possible consistency with broader corporate agendas.

However, it would be a gross mischaracterization to frame such a process as being akin to a real option (see Adner and Levinthal (2004) for a fuller argument regarding the boundaries of the application of real options in characterizing managerial decision making). Although both processes are sequential, a real-options investment reflects a conscious allocation of resources to a particular initiative that may, depending on initial outcomes, receive subsequent resource investments. The large set of parallel initiatives that characterize 'definition' within the resource allocation process are, quite explicitly, not specified by the firm as a whole. They consist of responses of lower-level actors to their particular circumstances. Indeed, from the lower-level actor's point of

view, the process of creating a new initiative may have more of the quality of an exploitation effort than being one cog in a broader system of exploration and exploitation (Adner and Levinthal 2002 and 2004). Initiatives are defined by managers, engineers, and salespeople who are trying to achieve some instrumental end; they are unlikely to view themselves as ‘experimenting’.

Independent, however, of the mind-set of the lower-level actors even though they are engaged in the process of definition, the broad system of the resource allocation process does speak to the need to balance the dual imperatives to explore and exploit. Diversity is generated at lower levels of the organization with relatively modest resource commitments associated with any one such initiative. Based on the initial outcome of these initiatives and the broader evaluation of their intrinsic merit and fit with the overall corporate strategic direction, this population of initiatives is culled, and the subset of initiatives that survives this culling process is provided the resources to scale up and thereby be given a chance to realize its full promise.

As Bower noted in his original research (1970: 67), the work on RAP fits squarely with the efforts of Cyert, March, and Simon in the late 1950s and early 1960s, to develop a view of the firm as a problem-solving entity adapting to its complex and often changing environment. The research on RAP, however, makes important contributions to this intellectual lineage. It provides a refined sense of the importance of the hierarchical nature of these organizational processes—a sensitivity that exists in Simon’s early work on *Administrative Behavior*, but one that is often underplayed if not lost. Politics and the contesting of agenda—themes that are beginning to re-emerge within the Carnegie tradition (Occasio 1999)—are issues that have been fully embraced by work on RAP from its beginnings. Furthermore, this body of work has acted as an important counterforce to the focus on variation generation and the relative neglect of selection processes in work on technology management. Whether selection is on- or off-line (Gavetti and Levinthal 2000), it is inherently an organizational phenomenon. Organizations are systems in which the dual process of exploration and exploitation are carried out and the contributors to this volume offer us enormous insight regarding these processes.

Endnote

1. Another criterion could be the influence on practice. Indeed, the issue of multiple-selection criteria is a theme to which I want to return to shortly.

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