



# What Simon said: the impact of the major management works of Herbert Simon

What Simon said

Gerry Kerr

*Odette School of Business, University of Windsor, Windsor, Canada*

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## Abstract

**Purpose** – The purpose of this paper is to trace the impact of a major management scholar, Herbert Simon.

**Design/methodology/approach** – A novel approach was employed in identifying the most influential research articles that have made use of Simon's two great management works, *Administrative Behavior* and *Organizations* (with James March). The list allowed the close analysis of the nature of the influence wielded by Herbert Simon on management scholarship. The process of analysis was guided by a targeted search. Google Scholar allowed the compilation of a list of top-cited research articles that made use of the two books. The 25 most-cited articles associated with each were then categorized by their subject matter and examined for the impact of Simon's research.

**Findings** – As measured by citations, Herbert Simon's influence on management scholarship has been immense. *Administrative Behavior* and *Organizations* have incurred huge numbers of citations, more than 7,000 each. Moreover, not one of the 50 papers populating the two lists has generated fewer than 1,000 citations. Both works contributed heavily to research on theories of the firm, organizational learning and knowledge, and on organizational coordination and decision-making, among other topics.

**Originality/value** – An emerging research tool, Google Scholar, was engaged, allowing an empirically based analysis of Herbert Simon's contribution to management scholarship. The results mark, with unusual clarity, the direction and nature of Simon's enormous influence.

**Keywords** Management theory, Literature

**Paper type** Research paper

Unique in the twentieth century, Herbert Simon contributed signal work to a broad cross-section of the social sciences. This research has been recognized by top awards, to name just a few, in political science (the Dwight Waldo Award, from the American Society of Public Administration); psychology (the American Psychological Association Award for Outstanding Lifetime Contributions to Psychology); computer science (the A.M. Turing Award); management (the Scholarly Contributions to Management Award from the Academy of Management); and, perhaps most famously, economics (the Alfred Nobel Memorial Prize in Economic Sciences) (Anderson, 2001). In a respected survey, two major works of Simon's, *Administrative Behavior* and *Organizations* (co-authored with James March) were recognized as leading contributions to the management canon (Bedeian and Wren, 2001). Furthermore, Simon and March were the only authors to appear twice on the list of top-25 books.

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Herbert Simon was author of 20 books and hundreds of articles over a 60-year career (Anderson, 2001; Colquhoun and Wroe, 2008). Certainly, not all the production resides in the management literature, but the influence of even a small percentage of Simon's vast production would be difficult to discern. In response, the focus will be trained on Simon's central management research achievements, *Administrative Behavior* and *Organizations*, in effort to assess his influence. In that effort, the most influential articles that have made use of the two books will be identified and the impact of *Administrative Behavior* and *Organizations* traced out. The discussion is presented in the manner of Simon's (1991b, p. 73) work, which insisted on observation rather than opinion and eschewed "received wisdom" not based in systematic analysis. Thus, this paper provides a means of "hardening" an analysis that, without sufficient grounding, could easily veer toward the vagaries of passing academic fashions and personal tastes about Simon's contributions.

### **Herbert Simon's contribution to contemporary management research**

The work of Herbert Simon entered into the canons of the relevant social sciences decades ago. But, the man continued the pursuit of both research and teaching until the very last days of his life. In fact, no fewer than four publications appeared after Simon's death on February 9, 2001 (Augier and Frank, 2002). Such remarkable productivity and influence deserves respect and a full recounting, certainly, in the form of a critical biography that examines the development of Simon's oeuvre. But, understanding the "collective memory" of Herbert Simon's research can also be achieved in a shorter, article-length work providing an examination of the influence of his two major management works in the present day. This paper is aimed to provide the second function.

### **Identifying the most influential research**

An important statement must be made before launching into a description of investigative methods. The structure of the forthcoming analysis should not be interpreted as overstating Simon's contribution to *Organizations*. As first author of the book, James Marsh was undoubtedly preeminent in its creation. But, this fact should not preclude the treatment of *Organizations* as a vital development in Herbert Simon's management research as well.

The project was born from a request from the Ford Foundation to construct an inventory of propositions related to organizational theory (Simon, 1991b, p. 163). The people primarily involved included James March, Herbert Simon and Harold Guetzkow (with the last noted as a collaborator), all of whom served during the period as full-time faculty at the Carnegie Institute of Technology (now Carnegie Mellon University).

In Marsh's own account of the book's development, Herbert Simon's earlier research (with *Administrative Behavior* providing the beginning) formed a central pillar for their efforts (Augier and March, 2004, p. 17):

[*Organizations*] expanded and elaborated Simon's earlier ideas on behavioural decision making, search and aspiration levels. It also elaborated Simon's ideas on the significance of organizations as social institutions in society.

Moreover, Herbert Simon's personality and intellect exerted potent effects over those working on the book (Augier and March, 2004, p. 18):

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Simon did not do it all. Indeed, he did not always agree with everyone else. But he was a major presence who influenced everyone in the group. As Oliver Williamson recalls in this volume (Williamson, 1994, p. 280), “it was hard to be around Herb without becoming infected”.

Thus, without any intention to slight James March’s significant achievement as first author of *Organizations*, this paper examines the most cited papers making use of the book and connects them with those making similar use of *Administrative Behavior*. In the process, a better understanding of Herbert Simon’s contribution is formed.

Google Scholar was utilized to gauge Herbert Simon’s impact on contemporary management research. Recent work has concluded that Google Scholar is a valuable source of citations information, especially in the social sciences (Harzing and van der Wal, 2009; Levine-Clark and Gil, 2009; Kousha and Thelwall, 2007). Moreover, the tool has proved to be especially effective in identifying citations in management and economics, where the established databases do not offer broad coverage in areas like general management and strategy (Harzing and van der Wal, 2009; Levine-Clark and Gil, 2009). Furthermore, more recent research has qualified negative conclusions reached in older research (Neuhaus *et al.*, 2006; Jasco, 2005, 2006a, b) about the precision and relevance of Global Scholar search results (Mukherjee, 2009). Thus, Google Scholar was employed because of its ease of use (Neuhaus *et al.*, 2006), its breadth of coverage in the social sciences (Kousha and Thelwall, 2007; Mukherjee, 2009), its ability to identify high-quality research with precision (Walters, 2009), and its usefulness in multi-disciplinary study (Walters, 2007).

Engaging Google Scholar was straightforward. The words “Administrative Behavior” and “Organizations” were entered as the basis for separate searches. In both cases, multiple hits were returned. *Administrative Behavior* returned 7,746 citations (on November 18, 2009), while the more acknowledged edition of *Organizations* (1958) returned 9,579 citations (on November 18, 2009). In each search, by activating the hot links “Cited by 7746” and “Cited by 9579,” respectively, a list of works appeared that had made reference to the individual books. The list items were presented by Google Scholar in descending order of their own citations, therefore, representing the group of the most influential works related to *Administrative Behavior* and *Organizations*.

The top-25 papers linked to the books are produced in Tables AI and AII (see the Appendix). In generating the tables, the decision was made to focus on peer-reviewed articles rather than monographs or books. Articles arguably represent more fully the research of management scholars and that of their informing disciplines – mainly psychology, sociology and economics. Active researchers develop and communicate their ideas through conference attendance and journal publications (the results of which are captured by Google Scholar), while tenure and promotion create incentives to support these activities. Simultaneously, the use of research articles offered a more targeted method for assessing the exact nature of the influence of Herbert Simon’s two major management works.

### **The influence of *Administrative Behavior***

The 50 papers associated with both books were examined and sorted according to their use of either source and to their contribution. Analysis produced ten categories, with a few common in the literature associated with both books. Four rubrics emerged from the top articles linked with *Administrative Behavior*.

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### 1. *Organisational learning and knowledge: toward a theory of the firm*

The most influential category of papers citing either *Administrative Behavior* or *Organizations* concerns the organizational learning process and its place in a theory of organizations. The resource- and knowledge-based theories of the firm have emerged as the logical development of bounded rationality and the framing of organizational learning within “the premises of decision-making” (Spender, 1996). Differences in individual capabilities in rationality lead directly to firm heterogeneity, which is severely limited or impossible in the neo-classical economic theories populated by “economic man” (Mahoney and Pandian, 1992). The need to build useful theory must begin with understanding the origin of the firm (Spender, 1996) and the marked differences that occur across organizations because of cognitive inequalities among their membership (Conner and Prahalad, 1996) and because of management limitations attributable to the scarcity of time and attention (Mahoney and Pandian, 1992).

A number of the top-cited papers also investigate the process of acquiring organizational knowledge. Contributions emanate from Simon himself, with work that develops the “procedural rationality” that marks human decision-making and its relationship to the cognitive limitations under which it operates (Simon, 1978). In organizations, the transference of knowledge is often hampered by problems with communication, integration and, most fundamentally, by the manner in which issues or situations are represented and engaged (Simon, 1991a). However, procedural rationality can be aided by information technology, helping both decision making (Simon, 1976) and the sustenance of organizational memory (Walsh and Ungson, 1991; Nunamaker *et al.*, 1991). The reach and effect of computer technology is powerful in markets and organizations alike, given the critical importance in each for information processing (Brynjolfsson and Hitt, 2000).

Some of the most-cited papers that make reference to *Administrative Behavior* explore organizational learning in conjunction with related issues. These include the direct relationship between market orientation and organizational learning, in which the strong assumptions about rationality criticized by Simon (1957) squelch an understanding of core activities like experimentation and entrepreneurship (Slater and Narver, 1995). In addition, an investigation of new electronic meeting-system technology (Nunamaker *et al.*, 1991) leads to Simon (1976) and an emphasis on technology as a means for establishing and maintaining organizational memory. More broadly, information technology positively impacts business performance and fosters economic growth (Brynjolfsson and Hitt, 2000). But, to draw a full circle back to the preoccupation of many of the resource- and knowledge-based researchers, key capabilities like acquiring and managing technologies are unevenly distributed and realized in firms – and these facts must be represented in any acceptable theory of the firm (Nelson, 1991).

### 2. *The sociology of economic activity*

Indeed, Nelson (1995), DiMaggio and Powell (1983) and Granovetter (1985), emphasize the limitations inherent in bounded rationality as they theorize about economic development. Granovetter (1985) of course, has been particularly influential, having been cited more than 11,000 times, according to Google Scholar. The paper emphasizes the social embeddedness of economic activity, the manner in which all types of economic behavior are profoundly shaped by sustained patterns of social interaction. These patterns are unavoidable and indivisible from the powerful pressures that shape

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whole societies. In this light, Granovetter (1985) takes a dim view of Simon's used of the phrase, "zone of acceptance", rather than Barnard's "zone of indifference", because the former implies greater independence than is deemed warranted.

Bounded rationality also figures prominently. DiMaggio and Powell (1983) note the often severe constraints for organizations that are contained in bounded rationality. The authors also make use of Simon (1957) to underscore the power wielded in the ability to set the premises of decision making and establish organizational norms. Societies become disadvantaged, however, as the ability to set decision-making premises evolves in homogenous ways, driven by government and professional norms, impediments marking economic development in the second half of the twentieth century (DiMaggio and Powell, 1983, p. 147). Finally, in examining economic development through the lens of evolutionary theory, Nelson (1995) employs bounded rationality as a key element to explaining the inescapable power of the selection forces that act on firms. The urge for survival leads to strong pressures to innovate that result sometimes in unique innovation. In turn, the same limitations and gestures to endure result in imitation and conformance – until still more innovation begins the evolutionary cycle again.

### 3. *Transaction cost economics*

The papers associated with the development of transaction cost economics (TCE) also employ *Administrative Behavior* in a familiar way. The question of the existence of the firm in TCE is answered by the transacting conditions and their associated costs, subject to the constraints of resource efficiency and bounded rationality (Williamson, 1981). The broadening of TCE to include hybrid or middle-ground governance structures like strategic alliances is also represented in the list of top-cited research papers. For example, Ouchi (1980) utilizes Simon (1947) differently from Williamson, to confirm that full goal alignment in organizations is not possible due to the fact that behaviors must be constantly induced from members. As a result, transaction costs vary greatly, a function of goal incongruence and performance ambiguity. Hybrid solutions like clans emerge naturally under conditions, for example, when goal incongruence is low and performance ambiguity is high (Ouchi, 1980).

### 4. *Organizational co-ordination and decision making*

A large body of top-cited papers, ten of 25, is related to organizational coordination and decision making. This evidence should incite little surprise, given the primary focus of *Administrative Behavior* and the influential follow-up research of Simon. In general, terms, the approach to the subject matter illustrates the need for a model of human rationality less optimal than the one commonly applied in neoclassical economics (Simon, 1955, 1956) and a process-oriented, incremental, and group-based approach to its study (Gersick, 1988; Barker, 1993; Van de Ven, 1986).

Herbert Simon is the sole author of four of the ten papers within the rubric of organizational coordination and decision making (Simon, 1955, 1956, 1959, 1979). They clarify and extend *Administrative Behavior* in multiple directions. Contributions include added clarity about the "decision premise", Simon's unit of analysis (itself receiving increased support in the introduction to Simon (1957)). The decision premise is described as the entire process of organizational decision making, including the influences upon it (Simon, 1959). Furthermore, the work in *Administrative Behavior* is labelled "an exercise in problem representation (Simon, 1979, p. 500). In Simon (1979),

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two critical sources are also connected to *Administrative Behavior*, Commons (1934) and Barnard (1938). John Commons's *Institutional Economics* helped situate Simon's theory of organizations within institutions and their authority, with Simon stressing the importance of the socialization of ethical values instead of the legalistic force of institutional sanctions (Simon, 1997, pp. 187-8). Barnard's *The Functions of the Executive* had even stronger influence on *Administrative Behavior*. At a general level, the book helped spur Simon to pursue the subject of his doctoral thesis (Simon, 1991b, pp. 72-3), which later became *Administrative Behavior*. Barnard even contributed to its editing and provided the forward to the first edition (Simon, 1991b, p. 88). More specifically, Barnard (1938) contributed heavily applied notions about the exercise of authority in organizations and, especially, about the need to induce behaviors from employees (contained in inducements-contributions theory) and the opportunistic nature of organizational decision making (Simon, 1979, p. 499). Finally, Simon (1955) deals most directly with the limitations of human decision making, as compared to those used in neo-classical economics, by drawing out the implications in economic models and concluding that the need to organize disappears entirely under conditions of perfect rationality (Simon, 1955, p. 114).

The relationship between the organization and its environment is also extended through foundational use of *Administrative Behavior*. Again, Simon contributes directly to the effort (Simon, 1956). In a companion piece to Simon (1955), the decision-making literature in psychology is reviewed – theory, empirical approaches, and findings – and compared with the extant literature in economics. Specifically, rational choice, as represented in economics, is contrasted with adaptive behavior, as contained in psychology research. Simon (1956) finds the latter approach markedly better at illuminating human decision making. In a much more narrow application, Das and Teng (1998) utilize Simon (1957) in connecting the action of organizational goal-setting with control in strategic alliances. The contribution has direct effect in the influential conclusion that trust and control are bound in a supplementary rather than complementary relationship (Das and Teng, 1998).

Finally, our understanding of group processes has been augmented through the use of *Administrative Behavior*, as they apply to innovation (Van de Ven, 1986), the coordination of information technology (Malone and Crowston, 1994), group development (Gersick, 1988) and group transition (Barker, 1993). For example, in his touchstone paper on the management of innovation, Van de Ven (1986) employs Simon (1947) to connect memory, habit and the processing of new stimuli. The effect is that a much less rational and dependable decision-making process is exposed in conditions of complexity, like those dealt with in the management of innovation (Van de Ven, 1986). Group decision making is also a critical component for the creation of coordination theory, Malone and Crowston's (1994) means for better grasping how information technology impacts markets and organizations, and produces effective work tools (including computers). Simon (1976) was useful, as well, in the induction of a development model in which simplifying assumptions (likened to bounded rationality by the author) mark the onset of group work (Gersick, 1988). In another important study of transition in a small manufacturing company, Barker (1993) engages Simon (1976) to identify the differing demands and natures of value- and factual-based decision premises. The two are linked in a transformation process whereby the existing factual-based decision premises become outmoded. New value-based premises

are then established, which “harden” into norms and, eventually, into rules and routines (Barker, 1993). What Simon said

Simon (1957) is also dealt with critically, taken to task for not reflecting more on those outside top management and the formal structure (Argyris, 1973, pp. 156-7). Simon (1957) is placed within the mainstream of “rational man decision theorists” who stress rationality over the emotional, thus missing the totality of human cognition and providing (perhaps unintended) support for the status quo (Argyris, 1973, p. 157). However, as has already been established, Simon (1957) makes use of Barnard (1938) in describing the need to induce goal-oriented behavior and, therefore, posits a difficulty in uniting – even for an instant – the complex goals of organizational members. Moreover, Simon (1957, 1997) does discuss group and informal structures in his model alongside the formal hierarchy (see, for instance, the section entitled “Informal communication” in Simon (1997, pp. 213-15)). All the while, the focus is clearly placed on the pattern of organizational decision making, taking the political process of goal-setting as a given (and outside the scope of the book). A more straightforward attack of this last tactic may have better served Argyris’s purposes.

### **The influence of *Organizations***

As stated, an analysis was also undertaken of the top-25 cited articles associated with *Organizations*. Again, the manner of usage of the book and the type of contribution made by the articles guided the classification. Six categories of articles emerged.

#### *1. Organizational learning and knowledge: toward a theory of the firm*

Like *Administrative Behavior*, easily the most developed theories associated with *Organizations* relate to organizational learning, knowledge and memory. The recently propagated knowledge-based view of the firm (Grant, 1996b) can also attribute a portion of its development to the platform provided in March and Simon (1958). The main contributions of the book leveraged in the top-cited papers are centered on the firm’s relationship with its environment; the manner in which this interaction results in knowledge synthesis and innovation; and the fact that what has been learned becomes embedded in the life of the organization (as “programs” or “routines”), with the effects of these programs being both beneficial and detrimental to its future.

For example, Cohen and Levinthal (1990) contend that learning and problem-solving are so similar as to be virtually indistinguishable. Inseparable from learning, therefore, is the ability of firms to internalize and synthesize outside sources of information, building on past experiences. These activities, and the learning and innovation derived from them, become the basis for the programs (March and Simon, 1958, 1993) or routines (Nelson and Winter, 1982) which animate and individualize business firms. As well, organizational memory comes to be crystallized in organizational programs (Walsh and Ungson, 1991).

The process of organizational learning is linked to the generation and refinement of programs and, thus, to communication (March and Simon, 1958, 1993) and information technology (Walsh and Ungson, 1991). But, the process is far from optimal. Indeed, employing March and Simon (1958) as its departure point, Szulanski (1996) answers the related questions: “why does some knowledge prove difficult to transfer? Why does it become unembedded in programs that can be readily moved across organizational areas?” The author finds the sources of failure not in a lack of motivation

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in organizational members, but mainly in the presence of causal ambiguity in the potential knowledge source, insufficient absorptive capacity within the organization, and an arduous (distant and difficult) relationship between the potential source of knowledge and the organization (Szulanski, 1996). For example, the reflexive nature of learning, the strong reinforcement of organizational actions by environmental cues, tends to make firms conservative (exploitive of their capabilities, rather than exploratory) (Levinthal and March, 1993). As a result, the limitations of organizations must be rectified in their design, so that learning can be better enhanced (Levinthal and March, 1993).

As suggested, the place of organizational programs, a signature contribution of *Organizations*, also provides key building blocks in the construction of a knowledge-based view of the firm (Grant, 1996a). While programs are important units of analysis, by themselves, they do not constitute a theory of organizational learning (Kogut and Zander, 1992). Knowledge resides at the individual level, and firms act as the repositories of members' individual knowledge and are formed to apply it effectively (Grant, 1996b). Thus, organizational learning is a function of the synthesis of accumulated environmental cues, acquired often through effectively managed social ties, and the reinforced skills, knowledge and decision-making resident in organizational capabilities (Kogut and Zander, 1992). The interplay of these combinative capabilities and organizational and technological opportunities captures organizational learning – as well as the manner in which knowledge sustains the firm through success in the marketplace (Kogut and Zander, 1992). The integration of goals and activities are clear organizational necessities, and the “coordination problem” described by March and Simon (1958, 1993) must be solved if learning is to occur. This solution typically involves the adaptation of organizational structure and sub-systems to reflect the intensity of interaction and the facilitation of communication and problem-solving (Grant, 1996a, b).

March and Simon (1958, 1993) have also spurred highly influential research that links social and intellectual capital theory with organizational advantage, generally (Nahapiet and Ghoshal, 1998), and in the context of cooperative strategies, in particular (Dyer and Singh, 1998). In the former work, intellectual capital is recognized as either incremental or revolutionary new combinations of largely existing resources, with the process of development often controlled (especially in the case of incremental growth) by bounded rationality and established programs (Nahapiet and Ghoshal, 1998). External search produces the cultivation of social capital and the simultaneous development of intellectual capital (especially as it relates to organizational capabilities). The two are termed “eco-evolutionary”, contributing a strong and unavoidable social grounding to the knowledge-based theory of the firm (Nahapiet and Ghoshal, 1998). Similarly, the development of intellectual capital is often inseparable from capabilities that connect organizations with their environments, as seen in successful cooperative strategies (Dyer and Singh, 1998). March and Simon (1958) provide support for the contention that organizations often learn from each other, helping to develop research exploring a relational view of firms.

## *2. Institutional theory*

March and Simon (1958) contributed to key elements of the perspective. In institutional theory, the place of ceremony and myth is a direct result of managers' abilities



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in absorbing uncertainty (March and Simon, 1993, pp. 186-8) by substituting opinion and interpretation for the raw data themselves. Power rests in those who can guide the interpretations of events and the negotiation of uncertainty, especially as it allows individuals to control the premises of decision making (DiMaggio and Powell, 1983). For institutional theorists, the programs described in *Organizations* are often akin to repeated patterns of activities (Suchman, 1995), myths and ceremonies, that support the formal structures of firms and undergird the confidence of its membership (Meyer and Rowan, 1977). Thus, the institutional world is marked by the pursuit of organizational legitimacy and survival (Suchman, 1995), to the extent that rational decision makers flatten the differences among their organizations (DiMaggio and Powell, 1983) in the search for acceptance, stability and good faith (Meyer and Rowan, 1977).

### 3. *Transaction cost economics*

The contribution of *Organizations* to TCE is quite limited. Indeed, Williamson (1981, p. 551) mentions March and Simon (1958) alongside Cyert and March (1963) as archetypal examples of the “Carnegie School,” whose basic contribution was an understanding of how formal organizational hierarchy and control mechanisms emerge as a means of navigating overwhelming environmental complexity. But, Thompson (1967) is offered as the apotheosis of the research stream because it augments the aforementioned (including other elements like core technologies and modes of transaction) by focusing on the economization of transaction costs.

Ouchi (1980) utilizes March and Simon (1958) in a similar manner, as part of a review of the major extant literature on the nature of the firm. The inducements-contributions theory of Barnard (1938) is examined, but found unable to explain how organizational output far exceeds the sum of members’ contributions (Ouchi, 1980, p. 129). The efficiency-based perspective of TCE is then posited as the basis for the understanding that organizations as simply one mode for organizing transactions.

### 4. *Organization design*

March and Simon (1958) also played a role in crucial aspects to a seminal paper focused on organizational design. *Organizations* provides the basic unit of the program (or routine) as a means of coping with environmental complexity – with the extent of communication and the use of sub-units (and sub-routines), information technology, and horizontal linkages rising with the level of complexity (Galbraith, 1974). These simultaneous efforts reduce the need for information processing and increase the capacity for processing, necessary tactics under conditions of environmental uncertainty.

### 5. *Organizational coordination and decision making*

Again, little surprise should surround the fact that six of the top-cited research articles (almost 25 percent) are focused on organizational coordination and decision making. Myriad aspects are examined and extended, with theory-creation a prominent outcome. For example, Daft and Weick (1984) focus on environmental scanning and interpretation, the beginning of the information-processing cycle. The interpretive model of organizations that emerges utilizes March and Simon (1958) to support the claim that decision-making, in general, is part of the information-processing and decision-making systems of firms, of which major features are the routines

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and programs applied in stable environments and the problemistic searches undertaken in more critical situations.

Daft and Weick (1984) themselves also make use of Mintzberg *et al.* (1976) to establish an enacting mode of organizations, in which the environment is explored and interpreted actively, through trial and error. Mintzberg *et al.* (1976), in turn, employ March and Simon (1958) as a key element in their induced model of the patterns in “unstructured” management decision making. Specifically, choice-evaluation procedures were seen to occur in the three modes adapted from March and Simon (1958) – judgement, bargaining and analysis – with the first two providing the greatest resonance with the phenomena.

Hambrick and Mason (1984) also build their upper echelons theory, among others, on both March and Simon (1958) and Mintzberg *et al.* (1976). Hambrick and Mason (1984) posit the sensitivity of organizations to the characteristics of top managers because of their key place in strategy-setting and implementation. Hambrick and Mason (1984) also note that the extant strategic-process research, like Mintzberg *et al.* (1976), fails to examine organizational decision makers separately from the flows of information and the decisions being made. To remedy the gap, Hambrick and Mason (1984) employ bounded rationality (March and Simon, 1958) and the enormous complexity of strategic decision making to explicate their theory. The great demands of the decision-making environment (goal proliferation and misalignment, an overwhelming number of options, the differential aspirations of organizational members, etc.) increase the explanatory relevance of the behavioral theory of the firm (Cyert and March, 1963; March and Simon, 1958, 1993) and help conjoin the characteristics of top decision makers, the options that are chosen and, ultimately, the performance of their firms.

The three remaining research articles offer more specialized approaches to the topic of organizational coordination and decision making. For instance, Cohen *et al.* (1972) develop and simulate a “garbage can model of organized anarchies,” in part based on March and Simon (1958). This model applies to organizations, like universities, that are marked by preferences for problems, technologies that are unclear, and the fluid involvement of participants (Cohen *et al.*, 1972). Even within these seemingly chaotic environments, patterns and predictions are shown to be tenable – to an extent.

Technology and coordination are also explored in two influential papers. As described earlier, the development of coordination theory (Malone and Crowston, 1994) owes support to both *Administrative Behavior* and *Organizations*. From the latter, the authors developed the basic understanding that all activities involving more than one person require some manner for dividing the activities and then a way of managing their interdependencies (Malone and Crowston, 1994, pp. 113-14). Similarly, in an early paper, Perrow (1967) utilizes *Organizations* to support the claim of a paucity of research exploring how technology and organizational activities interact. In setting out a comparative framework using technology to explain organizations, March and Simon (1958) is also useful in noting the importance of planning and feedback in achieving coordination (Perrow, 1967, pp. 198-9) and in applying the inducement-contributions model to routine and non-routine contexts (Perrow, 1967, p. 205). These latter situations are connected to searches that are often extensive and idiosyncratic, posited to define the basics for the comparative analysis of organizations on the basis of technology.

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### 6. *The employee-organization relationship*

March and Simon (1958) also contributed important primary research to both theory-building and empirical testing about the relationship of employees and their organizations. For instance, March and Simon (1958) is invoked, among many, to demonstrate the reciprocal relationship between employee and organization (Eisenberger *et al.*, 1997). Eisenberger *et al.* (1997) investigate whether employees' perceptions of their organizations' freedom of action significantly influences the relationship between the conditions of the job and the perceived support of their firms. As well, Eisenhardt (1989) develops her support of Agency theory as a bona fide organizational theory by demonstrating its use of mainstream organizational assumptions like self-interest, goal conflict and bounded rationality (Eisenhardt, 1989, p. 63). Moreover, she draws a close comparison between the need to create and control inducements in order to secure positive contributions from employees (March and Simon, 1958, 1993). Agency theory places the emphasis on goal misalignment so as to arrive at the formation of well structured contracts and productive cooperative behavior (Eisenhardt, 1989).

Major research articles on organizational commitment and its associated factors also receive important impetus from March and Simon (1958). In their meta-analysis of the antecedents, correlates and consequences of organizational commitment, Mathieu and Zajac (1990) employ *Organizations* to help differentiate and hypothesize about attitudinal commitment (the personal connection of an employee with an organization) and calculative commitment (an employee's sunk and switching costs connected with an organization). March and Simon (1958) supports the hypothesis that calculative commitment rises with age. Similarly, Ashforth and Mael (1989) examine the explanatory power of social identity theory with regard to organizational functions, including its relationship to commitment. *Organizations* is employed to associate the strength of group identification with its prestige and to set out expectations about the effects of organizational roles. The highly complex, nested profile of organizational roles exerts an expected moderating effect on conflict, while sub-units exhibit conflict due to competition for resources and to the divisive effects of communication and rewards (Ashforth and Mael, 1989).

### **The impact of Herbert Simon on management**

The breadth and depth of Herbert Simon's influence over management research is now established. In Herbert Simon, we find the rarest of research productivity and influence. Simon asked direct questions about human decision making, asked them in the manner of a grounded empiricist, and moved toward whatever academic sources could provide the best answers. It was the strength of Simon's contentions that has proved rare, while their centrality in all aspects of human activity has guaranteed their currency and reach.

Simon identified an area for his research in which a new approach was needed and which reliable insights would be highly valued. With the subject matter established, Herbert Simon was then able to draw effectively from enormous personal gifts (Augier and March, 2004, pp. 3-6), an excellent and broad education (Simon, 1991b, pp. 39, 85), and the deep well of a happy family life (Simon, 1991b, p. 236; Frank, 2004). By his own admission (Simon, 1991b, pp. 143-8), and by those who worked with him (Augier and March, 2004, p. 18), Simon could be argumentative and difficult. Ultimately, though,

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one piece of evidence may speak loudest: Herbert Simon successfully engaged more than 80 co-authors, many repeatedly, during his long career (Simon, 1991b, p. 163).

The results are clear. Unique among those included among the top-50 authors, Herbert Simon accounts for six articles, more than 10 percent of the list. Each publication has generated more than 1,000 citations – with his top article, Simon (1955), ranked at number three, with more than 4,500 citations – and they span more than three decades. Moreover, the top management output of Herbert Simon forms a spine supporting the author's entire research contributions to management and economics. They begin with the presentation of novel formal models of human decision making under bounded rationality (Simon, 1955, 1956) and within organizations (Simon, 1959), and they culminate with a mid-career retrospective that marked Simon's reception of the Nobel Prize for Economics (Simon, 1979) and an influential extension to the organizational learning literature (Simon, 1991a).

One more summary note must be made. The casual reader should not make the mistake of concluding that Simon's main influence only extended through *Administrative Behavior*, simply because his articles are present only on that list. The more heavily cited articles on the two top-25 lists are associated with *Organizations* (1958), a work published after Simon's most cited paper (Simon, 1955). As a result, Simon (1955) was incapable of including a reference to *Organizations*. Simon's more recent influential papers, while generating more than 1,000 citations each and making use of *Organizations*, still do not rise to the levels necessary to make the top-25 list related to the book.

### **The influence of *Administrative Behavior***

As the rest of the top-25 list is analyzed, the breadth of the topics being considered in the articles and their heavy emphasis on theory development become apparent. The resource (Mahoney and Pandian, 1992) and knowledge-based views of the firm (Spender, 1996) are prominently represented, but so are the evolutionary view of the firm (Nelson, 1991), TCE (Ouchi, 1980; Williamson, 1981), and institutional theory (DiMaggio and Powell, 1983). The applications of Simon's basic organizational framework of contribution-inducement, bounded rationality and the coordination problem inherent with organizational hierarchy appear to provide a robust platform for a variety of research orientations and analyses. Although 40 percent of the list is concentrated on organizational coordination and decision-making – the core of Simon's own work – the remainder marks quite radical differences in direction. Furthermore, the span of Simon's influence can be gauged by the number of academic disciplines and sub-disciplines represented on the list. These include economics and sociology, as well as marketing, management information systems, organizational theory, and strategic management.

### **The influence of *Organizations***

Many of the same points about the influence of *Administrative Behavior* can be made even more emphatically about *Organizations*. The total number of citations for the book and those generated by the top-cited papers referring to *Organizations* are also much higher. More than 2,000 citations separate the two books, and many more articles associated with *Organizations* are in the range of 2,000-4,000 citations each.

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The theories represented on the top-25 list are also broader. Besides, all of the theories related also to *Administrative Behavior*, *Organizations* has influenced landmark papers centered in social capital theory (Nahapiet and Ghoshal, 1998), agency theory (Eisenhardt, 1989), upper echelons theory (Hambrick and Mason, 1984), coordination theory (Malone and Crowston, 1994), and social exchange theory (Eisenberger *et al.*, 1997).

Again, the framework provided by March and Simon in *Organizations* has proved itself a sturdy platform for research in multiple directions. The telling aspect seems to be the careful amalgamation of the authors' own contributions with the relevant literatures from a broad swath of the social sciences, including both theoretical and empirical work. And, again, an even broader range of disciplines and sub-disciplines is represented on the list, including the addition of psychology and greater depth in organizational theory.

### Criticism

A few articles on the lists comment critically on the two works, with *Administrative Behavior* receiving primary attention. This occurrence should not be a source of surprise, given the type of change incited by the works. A brief overview of Simon's critics and their ensuing debates about *Administrative Behavior* is provided in Kerr (2007, p. 256). By comparison, *Organizations* was not aimed to overturn established precepts, but to synthesize across disciplines and undergird an emerging field. The book's reception in the literature, therefore, took on a different quality.

The broadest and most substantive attack from the top-25 lists, Argyris (1973), points to the perceived reductionism of Simon's model of rationality, its inability to deal fully with human subjects and the range of their condition. Indeed, a tension is created in *Administrative Behavior* by its claim to deal with the premises of decision-making while also rendering value judgements ("ought statements") a given – thus, simultaneously negating aspects of those premises. The rationale on Simon's part was undoubtedly to train scholarly attention on the efficiency and integration of decision making, holding constant the question of what an organization ought to be doing. The result, however, is not entirely satisfying, made more so by the ironic fact of Simon's own formative training in political science.

### A final assessment

This paper has provided two major contributions. First, in terms of historical methodology, I have employed a new means of assessing the impact of a major management scholar, Herbert Simon. Google Scholar has proved largely reliable in identifying top-cited papers associated with *Administrative Behavior* and *Organizations*.

However, a simple caution must be expressed to those intending to employ Google Scholar in a similar manner. The multiple editions of *Administrative Behavior* created the need for considerable care in compiling the top-citations list; *Organizations* provided no such challenges. Articles related to *Administrative Behavior* had to be assembled from multiple links. Also, the incidence of "phantom citations", low but still significant, required that each reference be checked for its actual use of either book. Fortunately, this task was a natural part of mapping the influence of the works.

Concurrently, the wide influence of Herbert Simon's two major management titles, *Administrative Behavior* and *Organizations*, has been demonstrated. Little surprise

should surround the fact that the works have widely impacted the social sciences. Management research, after all, is a multi-disciplinary pursuit – especially as it was undertaken by Herbert Simon. His influence, in turn, has been shown to extend back to his sources, across many theoretical schools and academic disciplines. Moreover, this influence has only been measured through citations in academic journal articles. Further research is warranted into the influence of *Administrative Behavior* and *Organizations* on prominent books in the management canon.

Finally, this article undertakes a critical task of management history. The key contribution is to develop a better understanding of a respected and celebrated contributor to the study of organizations. Through the examination of a body of work and its impact, it is possible to learn more deeply from a rare achievement and to place it more firmly in the grasp of those who may be enriched by it. The contribution of the major management works of Herbert Simon has proved a highly rewarding subject matter – which, given its breadth and depth, promises many more benefits with each analysis.

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### Further reading

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(The Appendix follow overleaf.)

### About the author

Gerry Kerr is Associate Professor of Strategy and Entrepreneurship in the Odette School of Business at the University of Windsor. His research has been published in *Frontiers of Entrepreneurship Research*, *Business Horizons*, *Journal of Management History*, and *Journal of Small Business and Entrepreneurship*, among others. Gerry Kerr can be contacted at: gkerr@uwindsor.ca

Appendix

**Table AI.**  
Highest impact articles  
citing Herbert Simon's  
*Administrative Behavior*

Rank	Author	Title	Journal	Number of citations
1	Granovetter, M.	"Economic action and social structure: the problem of embeddedness"	(1985), <i>American Journal of Sociology</i> , Vol. 91, No. 3, pp. 481-510	11,592
2 <sup>a</sup>	DiMaggio, P.J. and Powell, A.S.R.	"The iron cage revisited: institutional isomorphism and collective rationality in organizational fields"	(1983), <i>American Sociological Review</i> , Vol. 48, pp. 147-60	9,873
3	Simon, H.A.	"A behavioral model of rational choice"	(1955), <i>The Quarterly Journal of Economics</i> , Vol. 69, No. 1, pp. 99-118	4,563
4 <sup>a</sup>	Ouchi, W.G.	"Markets, bureaucracies, and clans"	(1980), <i>Administrative Science Quarterly</i> , Vol. 25, No. 1, pp. 129-41	2,690
5 <sup>a</sup>	Williamson, O.E.	"The economics of organization: the transaction cost approach"	(1981), <i>The American Journal of Sociology</i> , Vol. 87, No. 3, pp. 548-77	1,936
6	Spender, J.-C.	"Making knowledge the basis of a dynamic theory of the firm"	(1996), <i>Strategic Management Journal</i> , Vol. 17 (Special Issue: Knowledge and the Firm), pp. 45-62	1,821
7 <sup>a</sup>	Malone, T.W. and Crowston, K.	"The interdisciplinary study of coordination"	(1994), <i>ACM Computing Surveys</i> , Vol. 26, No. 1, pp. 87-119	1,725
8	Argyris, C.	"Personality and organization theory revisited"	(1973), <i>Administrative Science Quarterly</i> , Vol. 18, No. 2, pp. 141-67	1,584
9	Mahoney, J.T. and Pandian, J.R.	"The resource-based view within the conversation of strategic management"	(1992), <i>Strategic Management Journal</i> , Vol. 13, No. 5, pp. 363-80	1,517
10 <sup>a</sup>	Walsh, J.P. and Ungson, G.R.	"Organizational memory"	(1991), <i>The Academy of Management Review</i> , Vol. 16, No. 1, pp. 57-91	1,470
11	Conner, K.R. and Prahalad, C.K.	"A resource-based theory of the firm: knowledge versus opportunism"	(1996), <i>Organization Science</i> , Vol. 7, No. 5, pp. 477-501	1,433
12	Slater, S.F. and Narver, J.C.	"Market orientation and the learning organization"	(1995), <i>The Journal of Marketing</i> , Vol. 59, No. 3, pp. 63-74	1,425
13	Simon, H.A.	"Rational decision making in business organizations"	(1979), <i>The American Economic Review</i> , Vol. 69, No. 4, pp. 493-513	1,337
14	Simon, H.A.	"Theories of decision-making in economics and behavioral science"	(1959), <i>The American Economic Review</i> , Vol. 49, No.3, pp. 253-83	1,329

(continued)

Rank	Author	Title	Journal	Number of citations
15	Simon, H.A.	"Rational choice and the structure of the environment"	(1956), <i>Psychological Review</i> , Vol. 63, No. 2, pp 129-38	1,313
16	Nunamaker, J., Dennis, A., Valacich, J., Vogel, D. and George, J.	"Electronic meeting systems to support group work"	(1991), <i>Communications of the ACM</i> , Vol. 34, No.7, pp. 40-61	1,263
17	Brynjolfsson, E. and Hitt, L.	"Beyond computation: information technology, organizational transformation and business performance"	(2000), <i>The Journal of Economic Perspectives</i> , Vol. 14, No.4, pp 23-48	1,203
18	Simon, H.A.	"Rationality as process and as product of thought"	(1978), <i>American Economic Review</i> , Vol. 68, No. 2, pp. 1-16	1,192
19	Nelson, R. R.	"Recent evolutionary theorizing about economic change"	(1995), <i>Journal of Economic Literature</i> , Vol. 33, No. 1, pp. 48-90	1,189
20	Nelson, R.R.	"Why do firms differ, and how does it matter?"	(1991), <i>Strategic Management Journal</i> , Vol. 12 (Special Issue: Fundamental Research Issues in Strategy and Economics), pp. 61-74	1,167
21	Gersick, C.J.G.	"Time and transition in work teams: toward a new model of group development"	(1988), <i>The Academy of Management Journal</i> , Vol. 31, No. 1, pp. 9-41	1,095
22	Van de Ven, A.H.	Central problems in the management of innovation	(1986), <i>Management Science</i> , Vol. 32, No. 5, pp. 590-607	1,095
23	Das, T.K. and Teng, B.	"Between trust and control: developing confidence in partner cooperation in alliances"	(1998), <i>The Academy of Management Review</i> , Vol. 23, No. 3, pp. 491-512	1,070
24	Simon, H.A.	"Bounded rationality and organizational learning"	(1991), <i>Organization Science</i> , Vol. 2, No.1 (Special Issue: Organizational Learning: Papers in Honor of (and by) James G. March), pp. 125-34	1,038
25	Barker, J.R.	"Tightening the iron cage: concertive control in self-managing teams"	(1993), <i>Administrative Science Quarterly</i> , Vol. 38, pp. 408-37	1,016

Note: <sup>a</sup>Article appearing on both top-25 lists

**Table AII.**  
Highest impact articles  
citing March and Simon's  
*Organizations*

Rank	Author	Title	Journal	Number of citations
1 <sup>a</sup>	DiMaggio, P.J. and Powell, W.	"The iron cage revisited: institutional isomorphism and collective rationality in organizational fields"	(1983), <i>American Sociological Review</i> , Vol. 48, pp. 147-60	9,873
2	Cohen, W.M. and Levinthal, D.A.	"Absorptive capacity: a new perspective on learning and innovation"	(1990), <i>Administrative Science Quarterly</i> , Vol. 35, pp. 128-52	9,576
3	Meyer, J.W. and Rowan, B.	"Institutionalized organizations: formal structure as myth and ceremony"	(1977), <i>American Journal of Sociology</i> , Vol. 83, No. 2, pp. 340-63	7,505
4	Kogut, B. and Zander, U.	"Knowledge of the firm, combinative capabilities, and the replication of technology"	(1992), <i>Organization Science</i> , Vol. 3, No. 3, pp. 383-97	4,351
5	Grant, R.M.	"Toward a knowledge-based theory of the firm"	(1996), <i>Strategic Management Journal</i> , Vol. 17 (Winter Special Issue), pp. 109-22	4,288
6	Nahapiet, J. and Ghoshal, S.	"Social capital, intellectual capital, and the organizational advantage"	(1998), <i>The Academy of Management Review</i> , Vol. 23, No. 2, pp. 242-66	3,578
7	Cohen, M., March, J. and Olson, J.	"A garbage can model of organizational change"	(1972), <i>Administrative Science Quarterly</i> , Vol. 17, No. 1, pp. 1-25	3,258
8	Dyer, J.H. and Singh, H.	"The relational view: cooperative strategy and sources of interorganizational competitive advantage"	(1998), <i>The Academy of Management Review</i> , Vol. 23, No. 4, pp. 660-79	2,973
9	Eisenhardt, K.M.	"Agency theory: an assessment and review"	(1989), <i>The Academy of Management Review</i> , Vol. 14, No. 1, pp. 57-74	2,779
10 <sup>b</sup>	Ouchi, W.G.	"Markets, bureaucracies and clans"	(1980), <i>Administrative Science Quarterly</i> , Vol. 25, No. 1, pp. 129-41	2,690
11	Szulanski, G.	"Exploring internal stickiness: impediments to the transfer of best practice within the firm"	(1996), <i>Strategic Management Journal</i> , Vol. 17 (Winter Special Issue), pp. 27-43	2,617
12	Hambrick, D.C. and Mason, P.A.	"Upper echelons: the organization as a reflection of its top managers"	(1984), <i>Academy of Management Review</i> , Vol. 9, No. 2, pp. 193-206	2,324
13	Galbraith, J.R.	"Organization design: an information processing view"	(1974), <i>Interfaces</i> , Vol. 4, No. 3, pp. 28-36	2,271

(continued)

Rank	Author	Title	Journal	Number of citations
14	Daft, R.L. and Weick, K.E.	"Toward a model of organizations as interpretation systems"	(1984), <i>Academy of Management Review</i> , Vol. 9, No. 2, pp. 284-95	2,204
15	Grant, R.M.	"Prospering in dynamically-competitive environments: organizational capability as knowledge integration"	(1996), <i>Organization Science</i> , Vol. 7, No. 4, pp. 375-87	2,109
16	Mathieu, J.E. and Zajac, D.M.	"A review and meta-analysis of the antecedents, correlates, and consequences of organizational commitment"	(1990), <i>Psychological Bulletin</i> , Vol. 108, No. 2, pp. 171-94	1,946
17 <sup>a</sup>	Williamson, O.E.	"The economics of organization: the transaction cost approach"	(1981), <i>The American Journal of Sociology</i> , Vol. 87, No. 3, pp. 548-77	1,936
18	Suchman, M.C.	"Managing legitimacy: strategic and institutional approaches"	(1995), <i>The Academy of Management Review</i> , Vol. 20, No. 3, pp. 571-610	1,900
19	Ashforth, B.E. and Mael, F.	"Social identity theory and the organization"	(1989), <i>The Academy of Management Review</i> , Vol. 14, No. 1, pp. 20-39.	1,834
20	Levinthal, D.A. and March, J.G.	"The myopia of learning"	(1993), <i>Strategic Management Journal</i> , Vol. 14 (Special Issue: Organizations, Decision Making and Strategy), pp. 95-112	1,830
21 <sup>a</sup>	Malone, T.W. and Crowston, K.	"The interdisciplinary study of coordination"	(1994), <i>ACM Computing Surveys</i> , Vol. 26, No. 1, pp. 87-119	1,725
22	Eisenberger, R., Cummings, J., Armeli, S. and Lynch, P.	"Perceived organizational support, discretionary treatment, and job satisfaction"	(1997), <i>Journal of Applied Psychology</i> , Vol. 82, No. 5, pp. 812-20	1,667
23	Mintzberg, H., Raisinghani, D. and Theoret, A.	"The structure of 'unstructured' decision processes"	(1976), <i>Administrative Science Quarterly</i> , Vol. 21, No. 2, pp. 246-75	1,639
24 <sup>a</sup>	Walsh, J.P. and Ungson, G.R.	"Organizational memory"	(1991), <i>The Academy of Management Review</i> , Vol. 16, No. 1, pp. 57-91	1,470
25	Perrow, C.	"A framework for the comparative analysis of organizations"	(1967), <i>American Sociological Review</i> , Vol. 32, No. 2, pp. 194-208	1,459

**Note:** <sup>a</sup> Article appearing on both top-25 lists