

Heuristics and simple rules: approaches and implications for management

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Abstract

Purpose – The aim of this paper is to contribute to the definition and role of heuristics in decision-making through the discussion of the main approaches of research on heuristics and simple rules in the light of two pivotal concepts in decision research: models (verbal and formal) and logics (of consequences, appropriateness and absurdity).

Design/methodology/approach – We propose a critical review to explain the conceptual similarities and differences in the main approaches of research on heuristics and simple rules in management. As a common foundation for the various approaches, the fundamental concepts proposed by Simon and March are used as a lens through which to compare the different approaches and their application in recent management literature.

Findings – The paper discusses how performance strategies and programs relate to heuristics and simple rules. Findings include insights about the links between adaptive tools and performance strategies and how heuristics and simple rules incorporate logics of consequences or appropriateness.

Research limitations/implications – The paper limits itself to examining the three most frequently cited approaches to decision-making in management, while overlooking other possible approaches.

Practical implications – To explore the differences between the various approaches and the possibilities for integrating them can provide guidance to those who are exploring the practical application of alternative decision-making models.

Social implications – A more thoughtful approach can help promote social acceptance of alternative decision-making models and approaches.

Originality/value – We conclude that approaches based on fast and frugal heuristics and on simple rules have much in common, as both are influenced by the work of Simon and March. These approaches involve adopting a perspective in which decision-making is studied not only in terms of logical consistency but also in terms of practical effectiveness and the generation of new ideas. This perspective remains, for the most part, a challenge yet to be addressed.

Keywords Bounded rationality, Heuristics, Simple rules, Adaptive toolbox, Performance, Simon, March

Paper type Conceptual paper

1. Introduction

Decision-making has long been a subject of interest in the field of business management, proving to be fundamental to both economic theory of the firm and behavioral theory of organizations (Cyert and March, 1963). Recently, this interest appears to be growing due to the implications of the interdisciplinary debate on the role of heuristic decision-making models (Audia *et al.*, 2025; Gigerenzer, 2025a; Eisenhardt and Bingham, 2025). This debate features diverse, if not polarized, positions, both in terms of approach (descriptive or prescriptive) and with regard to research programs on the role and performance of heuristic models (biased or smart). This debate is intertwined with the one on rationality (Gigerenzer, 2025b) which, with



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its evolution beyond the forms of full rationality (for example, into bounded rationality and ecological rationality), has recently been the subject of growing interest among management scholars (Maghzi *et al.*, 2024). Studies such as recent ones on entrepreneurial metacognition (Bastian *et al.*, 2026), on Knightian uncertainty in relation to the use of AI (Townsend *et al.*, 2025; Ramoglou *et al.*, 2026) and on leadership development (Cannon *et al.*, 2024) confirm this interest in models of human cognition within management and entrepreneurship. Although pluralism in research is in itself a positive aspect, it is important to structure and reorganize it within a framework that also takes into account the common roots of the various research programs. We believe that the absence of this perspective may constitute a gap in the transfer of the best research results and in the debate on heuristics in management.

Research in the field of management was influenced by a transdisciplinary framework within which three main strands of research into human decision-making emerged: heuristics and biases (Tversky and Kahneman, 1974), fast and frugal heuristics (Gigerenzer *et al.*, 1999) and simple rules (Bingham and Eisenhardt, 2011). We do not intend to suggest that there have been no developments – in some respects autonomous and distinct – in recognizing the value of natural decision-making behaviors (Klein, 2017) or in identifying the potential value of nudging heuristic processes that are as widespread as they are biased (Thaler and Sunstein, 2008). The three programs listed above, however, appear particularly influential for management, given their importance and scientific recognition, as well as the attention paid to the topic of managerial decision-making (Cristofaro, 2025; Vuori *et al.*, 2024), albeit from different perspectives (Reb *et al.*, 2024).

These three research programs all acknowledge Simon's seminal work on bounded rationality (Simon, 1956). In the organizational context, March's contribution to decision-making within the behavioral approach is also fundamental (March and Simon, 1958). Although the comparison between these three approaches is receiving increasing attention (Eisenhardt and Bingham, 2025), there has been, and continues to be, considerable fragmentation and confusion regarding the three programs (Lejarraga and Pindard-Lejarraga, 2020; Hodgkinson *et al.*, 2023; Vuori *et al.*, 2024). The risks of such fragmentation cannot be underestimated. For example, there may be inconsistencies in how heuristics are conceptualized in psychology and business management, and this can hinder the advancement of the theory. Or, on the practical side, managers may face difficulties when trying to draw lessons from different heuristics traditions. In this context, reconsidering the original context can help situate the perspectives of the debate to offer a conceptual contribution to those engaged in practice (Barnett *et al.*, 2025).

In this article, we undertake an in-depth reflection on the main concepts of heuristics and simple rules to contribute to their application in the field of management. Our primary method consists of juxtaposing and analyzing key citations on the theory and evidence drawn from the literature on heuristics and biases, fast and frugal heuristics, and simple rules. To this end, we analyze these three frameworks in light of ideas on decision-making models (Simon, 1968; Katsikopoulos *et al.*, 2020) and decision-making logics (March, 1994; Newark, 2018).

Research on heuristics and simple rules is situated within an interdisciplinary context. In psychology, bounded rationality has sometimes been modeled, verbally or formally, through heuristics (Kahneman *et al.*, 1982; Gigerenzer *et al.*, 2011), while in the study of strategy and entrepreneurship, the role of identifying and managing simple rules has been examined (Sull and Eisenhardt, 2015; Vuori *et al.*, 2024).

What are the similarities and differences between these approaches? Under what conditions might they be adopted? Answering these questions is our first contribution, in response to the call by Hodgkinson *et al.* (2023) for a better balance in the coverage of heuristics in the (management) literature. Our second contribution consists of examining the logic underlying a decision-making model. We follow the distinction made by March (1994) between two decision-making logics: the “logic of consequences,” which employs full or bounded rationality, and the “logic of appropriateness,” which focuses on the fit between the decision-maker/situation and the model. These logics are respectively related to the role of preferences

and identity in the decision-making process, particularly at the individual level. We also consider a third intriguing logic, Newark's (2018) "logic of absurdity," in which consequences are calculated but, consciously and in a certain sense "irrationally," are not used to decide.

The final contribution of the article consists in integrating the results of the analysis regarding models and logics. We conclude that the adaptive toolbox and simple rules approaches have much in common, both being influenced by the contributions of Simon and March. An effort to organize and understand the relationship between these research programs can offer some useful implications for practitioners and policymakers, which we seek to highlight in the final section of the paper.

All of this work converges toward a vision of managerial decision-making based on analysis, but, unlike other conceptions, this analysis is of a type suited to conditions of radical uncertainty. The study of this vision remains a challenge yet to be addressed.

2. Models of decision-making: dimensions of analysis and methodology

The growing focus on heuristics in management has attracted increasing attention (Chen *et al.*, 2024; Eisenhardt and Bingham, 2025; Hodgkinson *et al.*, 2023; Maghzi *et al.*, 2024; Pavičević *et al.*, 2025), driven both by a growing interest among management scholars – understood in the broadest sense to include specialisms such as strategic management, entrepreneurship and marketing management (Atanasiu *et al.*, 2025; Guercini, 2023), and due to the focus on management as an area of application by researchers engaged in major research programs on the topic of heuristics and simple rules (Reb *et al.*, 2024; Eisenhardt and Bingham, 2025). Here, we compare the main approaches to heuristics and simple rules, drawing on a transdisciplinary body of literature, as discussed in these articles, and naturally including those aimed at an audience of management scholars. The main research approaches to heuristics, as we have mentioned, include the *heuristics and biases approach* (Tversky and Kahneman, 1974; Kahneman *et al.*, 1982), the *fast and frugal heuristics approach* (Gigerenzer and Selten, 2002; Gigerenzer *et al.*, 2011), both developed in psychology, and the *simple rules approach* (Bingham and Eisenhardt, 2014; Sull and Eisenhardt, 2015) developed in entrepreneurship and strategic management. All these approaches attribute their inspiration to the concept of bounded rationality, although they interpret it differently (Katsikopoulos, 2014). In more recent studies, research approaches on heuristics have been examined in relation to management (Katsikopoulos and Gigerenzer, 2013; Vuori and Vuori, 2014; Artinger *et al.*, 2015; Looock and Hinnen, 2015; Bettis, 2017; Cavarretta, 2021; Guercini and Lechner, 2021; Gigerenzer *et al.*, 2022; Katsikopoulos, 2023; Guercini *et al.*, 2024; Guercini, 2026; Reb *et al.*, 2024; Vuori *et al.*, 2024). These approaches can be traced back to common roots in research on bounded rationality, and they originated with scholars originally active in the fields of psychology and cognitive science (Kahneman, Gigerenzer) and in the fields of strategic management and entrepreneurship (Eisenhardt).

In this article, we adopt a conceptual approach as defined by Barnett, Cabral, Cheng, Heugens and Rajwani in a recent editorial published in *Academy of Management Perspectives* – that is, an approach aimed at providing "a rigorous analysis that yields concrete and actionable insights [...] to offer professionals and policymakers credible concepts that prompt them to act [...]" (Barnett *et al.*, 2025, p. 521). The debate between the various approaches has become so polarized that it has been described as a "war of rationalities" (Gigerenzer, 2025b). Of course, the range of authors relevant to the evolution of the current debate is extensive and goes beyond the scope of this article (consider, for example, Edwards; for a recent summary, see Gigerenzer, 2025a).

The topic becomes of interest for management when we move from the study of full rationality, as used in game theory, to forms of bounded rationality or ecological rationality. Studies in entrepreneurship, for example, have shown a growing interest in the topic of entrepreneurial metacognition, understood as vital for entrepreneurs in making sense of and mobilizing cognitive resources under conditions of uncertainty (Bastian *et al.*, 2026). We agree

with the management literature that seeks to draw on transdisciplinary approaches that draw from research in other fields and explore topics such as the criteria that guide decision-making models. For example, the concept of “ecological rationality” applied in contexts of “Knightian uncertainty” has recently been examined from various perspectives in the management literature (Ramoglou *et al.*, 2025; Smit, 2023). This concept of uncertainty is analyzed in relation to the possibility of making predictions using AI, highlighting how this depends on circumstances that may reduce the likelihood of making predictions through computation (Townsend *et al.*, 2025). Other studies examine the development of identity as a factor that can support leadership development in dealing with uncertainty by establishing standards of conduct that serve as a guide even when external conditions are unclear (Sunderman *et al.*, 2026). Maghzi *et al.* (2024) examine the role of dynamic capabilities in a context of “opportunity discovery”, comparing it with a context of “opportunity creation”: Whilst in the former context the approach is reactive and involves deductive reasoning, in the case of opportunity creation the approach is more proactive and requires the use of heuristic reasoning, explicitly calling for the adoption of an ecological rationality approach to respond to conditions of uncertainty (Maghzi *et al.*, 2024, p. 517).

Our aim here is to compare the main approaches to heuristics and simple rules, drawing on a transdisciplinary body of literature, as discussed in these articles, whilst certainly including works aimed at an audience of management scholars. Any discussion of the common roots of these various programs cannot, however, overlook Simon, to whom we add March, both for their collaboration on joint projects and for their direct contributions to the theory of choice in organizations and to decision-making techniques (see, for example, March, 1976). From among the works of these authors, we have selected a series of contributions that we consider relevant for framing the current debate and, consequently, for applying its results in a way that is of interest to managerial or entrepreneurial decision-makers.

In this context, a key concept has been that of the “performance program” (March and Simon, 1958), which fits into a framework in which various variables can influence a form of cognitive optimization. We refer to this concept as the basis for a comparative analysis of various research programs. This role of heuristics has sometimes been underestimated in theoretical circles compared, for example, to opportunism (Foss and Weber, 2016). This is despite the fact that the adoption of heuristics in decision-making is highlighted in research examining specific decision-making processes by entrepreneurs, for example, or linking their effectiveness to their use by decision-makers capable of comparing them with other business models when conceiving a new venture (Baldacchino *et al.*, 2023), or that highlights their adoption and effectiveness in relation to location choices (Berg, 2014). The topic under consideration is the focus of attention in the most recent management literature; this is a point to bear in mind in relation to the aims of this paper and one which strengthens our rationale by demonstrating how it helps to address a gap in the research and makes a significant contribution.

In this section, we will first examine the relationship between performance programs/strategies and the three approaches to decision-making. The analyses use key citations and selected findings from each research approach to discuss the decision-making models of each approach through interconnected dimensions, which dimensions are all usually invoked in model-based areas of management such as operations management (Katsikopoulos, 2023), including: Is the model intended as a *description* of behavior? Is there a focus on the *cognitive processes* underlying the observed behavior? Is the model intended as a *prescription* for behavior? Is there a theory outlining the *conditions* under which the model succeeds or fails? Is there an examination of the *meta-level* of decision-making regarding which decision-making model to use? Is there a *specific focus on managerial decisions*? These dimensions are used to analyze the three research programs through a review of a series of selected works deemed representative of these programs, and in light of the content of seminal works on the topic of bounded rationality.

The methodological approach followed in this article is similar to what has been defined as a “integrative literature review” or “critical review approach” (Snyder, 2019), defined as “a form of research that reviews, critiques, and synthesizes representative literature on a topic in an integrated way such that new frameworks and perspectives on the topic are generated” (Torraco, 2005). This is a deliberately unstructured approach to literature review, as its purpose is to evaluate, critique and synthesize the literature on a research topic with a view to reconceptualizing it, as demonstrated by examples in psychology (Covington, 2000), marketing (Mazumdar *et al.*, 2005) and even as recently as the present day, management (Hillebrand *et al.*, 2025). An integrative or critical review methodology is the one adopted, for example, by Miller (2008) in a study that compares Simon’s thinking with that of Polanyi. The references under consideration have not been selected systematically, but rather critically, as they are relevant to the subject of the analysis (the three research programs on heuristics and simple rules) and include certain contributions from the literature on bounded rationality (Simon, March) as a tool for discussing the three approaches to heuristics and simple rules research and the potential for their integration.

2.1 Performance programs/strategies and heuristics-and-biases approach

An assessment of the use of heuristics from a managerial perspective generally requires an analysis of how they are applied within an organizational context, a topic that has long been the focus of attention (March, 1994; Cohen *et al.*, 1996). In this regard, March and Simon (1958, pp. 141–142, emphasis in the original) write:

... An environmental stimulus may evoke immediately from the organization a highly complex and organized set of responses. Such a set of responses we call a *performance program*, or simply a *program*. For example, the sounding of the alarm gong in a fire station initiate such a program... Most behavior, and particularly most behavior in organizations, is governed by performance programs.

March and Simon’s use of the term “performance program” might suggest an approach to addressing routine, rigid or even meaningless problems. This is how part of the managerial literature has interpreted it (Becker, 2004; Reynaud, 2005; for a critical review of these conclusions, see Koumakhov and Daoud, 2017). March and Simon, however, reject the idea that performance programs are rigid: “... ‘program’ is not intended to imply complete rigidity” (1958, p. 142). In this sense, the performance program differs from routines (Nelson and Winter, 1982) in that the former involve certain development and adaptation activities that are absent in the latter. In evolutionary economics, routines “... play the role that genes play in biological evolutionary theory. They are a persistent feature of the organism and determine its possible behavior (although *actual* behavior is also determined by the environment)” (Nelson and Winter, 1982, p. 14, emphasis in the original). In psychology, routines are “prepackaged solutions to a decision-making problem [...] that are learned and memorized” (Betsch and Haberstroh, 2014, p. ix). Certainly, a routine could be a basic performance program, where certain heuristics and simple rules might give rise to routine behaviors, but this does not generally hold true for all heuristics and simple rules. Performance programs align with Bettis’s conception of heuristics from a managerial perspective, as they “save time, information, and managerial attention.” (Bettis, 2017, p. 2628). Performance programs save: (1) *time*, as they are activated immediately and executed quickly, (2) *information*, as they require a relatively simple initial cue and (3) *other resources*, by avoiding activities such as searching, problem-solving or choice.

March and Simon argue that most human behavior is governed by mechanisms similar to performance programs rather than by formal planning, a view supported by much recent research (Bingham and Eisenhardt, 2011; Berg, 2014; Guercini *et al.*, 2014; Nikolaeva, 2014; Looock and Hinnen, 2015; Bettis, 2017; Guercini and Lechner, 2021; Liu *et al.*, 2025; Ramoglou *et al.*, 2025; Smit, 2023). In the heuristics-and-biases approach, they acknowledge that the use of these heuristics is extremely widespread in the formation of judgments, but they

associate this with the emergence of severe systematic errors. [Tversky and Kahneman \(1974, p. 1124, emphasis added\)](#) write:

... People rely on a limited number of heuristic principles which reduced the complex tasks of assessing probabilities and predicting values to simpler judgmental operations. In general, these heuristics are quite useful but *sometimes* they lead to severe and systematic *errors*. The subjective assessment of probability resembles the assessment of physical quantities such as distance ... For example, the apparent distance of an object is determined in part by its clarity. The more sharply the object is seen the closer it appears to be.

Tversky and Kahneman's definition has a *prescriptive* aspect that is not always found in definitions of heuristics in the field of business management. In the heuristics-and-biases approach, heuristics are considered useful but prone to error. In contrast, March and Simon do not offer such assessments regarding performance appraisal programs. Most of the discussion on performance programs is *descriptive*, making claims about which programs people might use and showing how to empirically verify such claims ([March and Simon, 1958](#), pp. 142–147). A difference from the “heuristics and biases” program is that March and Simon focused on decisions “in real organizational contexts” ([March and Simon, 1993](#), p. 303), that is, *in the wild* ([Hutchins, 1995](#)). This expression is used as an antonym of the expression *in the laboratory* (or *in the lab*), which refers to studies that place great emphasis on experimental control and therefore design artificial decision-making problems with known optimal solutions; such characteristics, however, rarely occur in real life or at work ([Katsikopoulos et al., 2020](#)). The heuristics and biases program, at least initially, paved the way for describing people's decision-making behavior in the lab.

2.2 Performance programs/strategies and fast-and-frugal heuristics

Despite the lack of prescriptions about which performance programs to use, March and Simon do not neglect the issue of how well these programs are adapted to the problems they are applied to. Immediately after the definition of performance programs, the concept of a *performance strategy* is introduced ([March and Simon, 1958](#), p. 142, emphasis in the original):

The content of the program may be adaptive to a large number of characteristics of the stimulus that initiates it. Even in the simplest case of the fire gong, the response depends on the location of the alarm ... The program may also be conditional on data that are independent of the initiating stimuli. It is then more properly called a performance strategy. For example, when inventory records show that the quantity on hand of a commodity had decreased to the point that it should be reordered, the decision rule ... may call upon him [the purchasing agent] to determine the amount to be ordered ...

The above paragraph suggest that some decisions should be made at a level of abstraction higher than the level of decision rules. It is at the *meta-level* of deciding which decision rule to apply and how exactly to do so, where March and Simon locate the challenging science and art of decision-making ([Marewski et al., 2024](#)). Different levels of decision-making are evident in various examples of heuristics detectable in the narratives of business managers: if we decide to use a “threshold” to determine when a stock item needs to be reordered, then we have to decide at what level to set the threshold, or if we decide to set a sales price using a multiplier of a purchase price, then we have to define the value of this “multiplier” or mark-up ([Guercini, 2019](#)). A problem of different decision levels that is evident in practice may not be easily dealt with in the laboratory. [Tversky and Kahneman \(1974\)](#) touch upon this challenge but do not develop it. For example, they state that heuristics are in “general” useful but “sometimes” lead to errors, but do not characterize these two kinds of situations.

On the other hand, Gigerenzer and his colleagues ([Gigerenzer and Selten, 2002](#); [Gigerenzer et al., 2011](#)) have proposed the concept of the *adaptive toolbox* which is also construed at March and Simon's meta-level of choosing decision models. [Gigerenzer et al. \(2011, p. xix, emphasis added\)](#) write:

The content of the adaptive toolbox is the heuristics, their building blocks, and the evolved and learned core capacities on which heuristics operate. Examples of building blocks are search rules, stopping rules, and decision rules. Core capacities include recognition memory, frequency monitoring, and the ability to imitate the behavior of others. Heuristics are simple because they take advantage of these capacities. The descriptive study of the adaptive toolbox examines . . . the question of *how* heuristics are selected in response to a goal.

This definition, as the ones before it, sees heuristics as simplifications and explicates the psychological capacities that enable such simplicity. Like March and Simon, Gigerenzer emphasizes that heuristics are means to achieving the decision-maker's goals. The study of the adaptive toolbox aims at specifying how a decision-maker selects a particular heuristic for a particular decision goal, and it has been done both in the lab and in the wild (Gigerenzer *et al.*, 2011). One might combine the terminology of Gigerenzer with that of March and Simon to say that the adaptive toolbox includes performance strategies.

The emphasis on the formal modeling of the *cognitive processes* underlying the adaptation of a decision-maker to its environment is a key point where Gigerenzer's work connects with Simon's vision, and where they both diverge from Kahneman and Tversky's approach. For instance, the processes underlying prospect theory (Kahneman and Tversky, 1979) have not been explicated (Katsikopoulos, 2014, 2023). On the other hand, Simon's vision, as commented by March, is: "He [Simon] persistently sought to clarify the real processes underlying human decision making" (Augier and March, 2002, p. 1). Fast and frugal heuristics, as for example the take-the-best heuristic (Gigerenzer and Goldstein, 1996), specify the processes underlying decisions such as which one of two start-ups it would be more profitable to invest in. In such heuristics, first the available cues for the start-ups are ranked according to criteria such as informativeness or subjective importance; then, they are inspected one by one until a cue allows making a decision. For example, there might be two cues, the risk attitude of the founder which is ranked first, and second the domain of the start-up (biotech, Internet-related, other). Let us say that for two start-ups both founders are basically equally risk seeking; then, the decision would be based on the domain cue where say one decision-maker might find biotech more desirable than Internet-related and other domains. That is, fast and frugal heuristics are specified by formal modeling, as in Simon's work (1968), though there have also been extensions of this canonical approach to include verbal, though still clear, principles (Marewski *et al.*, 2024).

Finally, the work of March and Simon and work in psychology might be connected on the issue of the prescriptive power of simple approaches to making decisions. March and Simon do not discuss prescription very much in their book but do speculate about a class of environments in which simple approaches would perform well (March and Simon, 1958, p. 176, emphasis added):

Consider a world that is mainly 'empty'—in which most events are unrelated to most other events; causal connections are exceptional and not common . . . [In a mainly empty world] the picture (or perhaps, nightmare) of planning as the solution of almost unimaginable numbers of simultaneous equations can be replaced by a picture of planning as the construction of a series of unrelated action programs.

Such conjectures were corroborated in the subsequent decades of decision research, including, among many others, the work of Dawes and Hogarth in the seventies; the one of Payne, Bettman and Johnson's in the eighties and early nineties; and Gigerenzer's work from the late nineties until today (for a review and synthesis of this research, see Katsikopoulos *et al.*, 2018). Simulation and analytical work has concluded that heuristics such as take-the-best (see above) and the equal weighting of cues (also called tallying) can, under some conditions that express March and Simon's "emptiness", perform almost as well, as well, or even better than benchmarks such as regularized regressions, random forests and support vector machines. The fast-and-frugal heuristics program has developed comprehensive bodies of evidence and theory, especially in the wild (Gigerenzer *et al.*, 2011; Katsikopoulos *et al.*, 2020;

Katsikopoulos, 2023). According to this program, the decision-maker's task is to recognize which conditions hold for the problem at hand and use those to choose the right heuristic, or other model, from one's toolbox. In parallel, in March and Simon's lingo, the challenge is to build a theory of good performance strategies.

In sum, the analysis of definitions of heuristics in psychology showed that March and Simon's performance strategies reside at a similar conceptual level with the fast-and-frugal-heuristics approach and the Gigerenzer's idea of an adaptive toolbox. We will explain "similar" when we analyze Eisenhardt's approach to simple rules.

2.3 Performance programs/strategies and simple rules

Bingham and Eisenhardt (2011, 2014) have explicitly connected the work on simple rules with the idea of heuristics. They write (Bingham and Eisenhardt, 2011, p. 1439/1458, emphasis in the original):

Heuristics are cognitive shortcuts that emerge when information, time and processing capacity are limited (Newell and Simon, 1972) . . . heuristics provide a common structure for a range of similar problems but supply few details regarding specific solutions to address them. The well-known 'heuristics and biases' research in psychology emphasizes the limitations of heuristics . . . while the contrasting psychological research on 'fast and frugal heuristics' focuses on the superiority of heuristics . . . We highlight a positive view of heuristics as *rational*.

Now, it would be wrong to conclude that Eisenhardt and colleagues suggest that the decision-making models used in management *are* "fast and frugal" heuristics such as "take-the-best" or "tallying." Rather, these authors have proposed the concept of *simple rules* applied to specific business problems, such as entry into foreign markets (see, for example, Bingham *et al.*, 2019). Rather, a characteristic of these simple rules is that they are specific to defined problems and/or businesses, so their scope of application extends to specific managerial problem it aims to address, standing vertically above it (Guercini, 2019). Bingham and Eisenhardt (2011, p. 1439, emphasis added) write:

But while psychology research typically explores universal heuristics that are common across individuals, several strategy studies anecdotally identify heuristics that are idiosyncratic to particular firms. These include Yahoo's rules for alliance formation, Intel's manufacturing rules, and Omni's rules for charter change. Simple rules such as these heuristics enable flexible, yet coherent capture of opportunities addressed by specific processes such as product development and internationalization.

Simple rules are therefore defined as less general yet more flexible than fast and frugal heuristics. Eisenhardt and colleagues thus address the issue of the number of simple rules, because while more rules can provide tools suited to different situations, speed and efficiency are better achieved with a few flexible rules (Guercini and Lechner, 2021). In principle, a heuristic discussed within the fast-and-frugal-heuristics approach, such as the "take-the-best" heuristic, could be used by all firms and for all management problems. However, Bingham and Eisenhardt (2011) demonstrate empirically, through in-depth interviews, that the formulation of these rules is flexible enough to provide *a framework, but not overly so*: "Focus more on Scandinavian markets," "Use a direct-sales approach," "Enter one continent at a time," and so on. Other researchers, such as Manimala (1992) and Busenitz and Barney (1997), have also identified simple and flexible rules of this type – for example, when launching the first small-scale venture and choosing proven products – but unlike Eisenhardt, they focus on the errors associated with them. In another study on the topic of international marketers' decisions, Guercini and Freeman (2023) instead highlight the effectiveness of the heuristics used by international marketers, which can be highly flexible (what they call "open") as they can be integrated on a case-by-case basis with additional problem-specific factors, thereby expanding the scope in which the heuristics can be effectively applied. The fact that firms use specific rules suggests that simple rules are employed conditionally, selected at a certain meta-level, but this aspect is not fully addressed.

The flexibility of Eisenhardt's simple rules aligns very well with the concept of performance programs/strategies in organizations. March and Simon discuss the concept of *discretion*, in which certain – often crucial – details of performance programs/strategies are not specified; rather, the decision-maker must fill in the gaps. They provide the example of an inventory manager who is told to minimize total inventory cost, but not exactly how and who must figure out for themselves how to balance holding and shortage costs.

Eisenhardt and colleagues (Bingham and Eisenhardt, 2011; Bingham *et al.*, 2007; Brown and Eisenhardt, 1997; Davis *et al.*, 2007) were also able to identify specific high-performance strategies. Using the computer industry as an example of a particularly volatile environment, they demonstrated that the most successful companies in terms of profitability were not those with the most rigid or the most flexible rules. Simulations showed that companies applying a structure intermediate between these two extremes achieved the best results (Brown and Eisenhardt, 1997). The main conclusion of their work is that the degree of structuring, or robustness, and performance are correlated in an inverted U-curve.

In summary, Eisenhardt's simple rules are situated at a conceptual level similar to that of March and Simon's performance programs/strategies. This does not mean that performance programs and strategies are necessarily simple; in fact, March and Simon described them as "elaborate" (1958, p. 141). This level is also similar to that in which Gigerenzer's adaptive toolbox is described. But one can conclude that simple rules are constructed at a level more similar to performance programs/strategies than to the adaptive toolbox because (1) the adaptive toolbox contains (for the most part, Marewski *et al.*, 2024) fully specified formal models of heuristics, which neither performance strategies nor most work in the simple rules approach do and (2) both performance programs/strategies and simple rules emphasize the role of flexibility.

Managers' knowledge of an organization's capabilities is defined as managerial meta-knowledge (Foss and Jensen, 2019). Meta-heuristics may not be available to managers even if they exist within the organization, as managers' meta-knowledge is generally imperfect (Foss and Jensen, 2019, p. 153). This presents an opportunity to link such organizational research on meta-knowledge to research on individual meta-heuristics (Marewski *et al.*, 2024).

3. Decision-making logic in heuristic and simple-rule approaches

March and Simon (1993, p. 301 and p. 305, italics added by us) write:

The people . . . are imagined to have reasons for what they do . . . The reasons reflect two related logics . . . The first, an analytic rationality, is a *logic of consequences*. Actions are chosen by evaluating their probable consequences for the preferences of the actor . . . The second logic of action, a matching of rules to situations, rests on a *logic of appropriateness*. Actions are chosen by recognizing a situation as being of a familiar, frequently encountered, type, and matching the recognized situation to a set of rules . . . Rationality (in the consequential or analytic sense) does not assure intelligence. To assume that people often have consequential reasons for what they do is quite different from assuming that they reliably select actions that would be objectively optimal in the light of their goals.

In this section, we will analyze the ways and degrees to which the heuristics-and-biases approach, the fast-and-frugal-heuristics approach and the simple rules approach employ the logics of consequences and appropriateness. Three questions will be investigated as before, by juxtaposing quotes and results from the literature: Which logic do simple rules and heuristics-and-biases follow? Which logic do fast-and-frugal heuristics follow? How does the logic of absurdity approach rely on a hybrid logic?

3.1 Decision-making logic in the heuristics-and-biases approach and the simple rules approach

The empirical basis of the simple rules approach concerns entrepreneurial firms engaged in seeking new opportunities in foreign markets. One might therefore expect that the decision-making approach of such firms is oriented toward consequences such as product quality,

service capacity and monetary profit. Consequently, the simple rules of such firms must be based primarily on the logic of consequences. Consequently, an implicit focus of the literature on simple rules is on consequences (Bingham and Eisenhardt, 2011).

Of course, some individuals or groups in firms may have the freedom, or the responsibility, of doing their job by engaging with the logic of appropriateness. For example, some aspects of a firm, such as its reputation, its corporate social responsibility and the like, necessitate thinking about identities and roles and matching those to decision-making and other behaviors. Appropriateness is not, however, explicitly mentioned in the simple rules approach. A part of this literature that entertains the concept of appropriateness is the focus on the right amount of flexibility in the rules employed (Brown and Eisenhardt, 1997).

Similarly to the approach of simple rules, the heuristics-and-biases approach has primarily engaged with the logic of consequences, for example, by labeling judgments as accurate or not (Kahneman *et al.*, 1982). A difference, as said in the previous section, is that heuristics and biases have been, at least initially, investigated in the lab, not the wild. Appropriateness enters the approach of heuristics and biases in the following, somewhat limited, sense: Those behaviors or decisions that conform to the usual standards of logic, probability and optimization are considered to be appropriate, whereas other behaviors or decisions are not.

Perhaps the most intriguing issue in analyzing the logic of consequences is to figure out how consequences are calculated. Full rationality methods such as subjective expected utility theory would encounter issues in their application because the setting is the wild where it is not possible to estimate utilities or probabilities with accuracy; rather, one might expect that a bounded rationality approach is employed. The definition of the logic of consequences does include the calculation of consequences by bounded rationality but our suggestion here goes beyond this point. It is not clear how to phrase this suggestion for simple rules or heuristics-and-biases because these approaches have not developed formal models. Below we develop the point for the case of fast-and-frugal heuristics/adaptive toolbox.

3.2 Fast-and-frugal heuristics/adaptive toolbox

The formal framework of the fast-and-frugal heuristics approach includes pretty much the same elements with full rationality. There are preferences, alternatives, outcomes and probabilities. Let us consider these elements below.

The preferences embodied by heuristics might not be as “well behaved”, in the sense of being internally consistent, as those typically assumed in neoclassical economics (Katsikopoulos and Gigerenzer, 2008). But in any case they are considered known to the decision-maker. Alternatives too are considered known to the decision-maker. A crucial issue refers to outcomes and probabilities, which together determine expected consequences. Whereas those approaches that operate mostly *in the lab*, such as full rationality and heuristics and biases including prospect theory, assume that outcomes and probabilities are somehow known or knowable, the approach of fast-and-frugal heuristics that was designed for *the wild*, does not assume so. Rather, people are said to use basic cognitive capacities, such as sampling, counting or borrowing information from others, to create cues that allow making decisions without calculating outcomes and probabilities (Guercini and Lechner, 2025). This cue information is imperfect, even impoverished, but that does not necessarily decrease performance compared to full rationality. Instead, people use smart and simple algorithms that can work well with such impoverished information. Humans and other organisms in the wild routinely bet on the *structure of the environment*, which might match the algorithm in use and lead to good performance (Simon, 1956). Indeed, Simon (1968) conjectured that simple algorithms would perform better in the wild than more complex ones which require information that is not available there, and research on fast-and-frugal heuristics has corroborated this conjecture (Gigerenzer *et al.*, 2011; Katsikopoulos *et al.*, 2020).

As an example, consider the decision of which one of two start-ups would be more profitable to invest in. The take-the-best heuristic (Gigerenzer *et al.*, 1991; Bröder, 2000) does

not calculate the expected return or risk of each start-up, and thus does not depend on probabilities and outcomes. Instead, it ranks cues in order to *directly* make a choice. Take-the-best estimates the degree to which cues – say, the founder’s risk attitude and the domain of the start-up – each correlate with start-up success and orders the cues by this correlation. The correlation can be computed by simply counting based on small samples, from one’s own or others’ experience. Then, take-the-best decides based on the first cue that discriminates between the two alternatives. This sequential process does not produce a valuation of the start-ups but still allows making a reasonable choice based on cues.

A choice between alternatives can be said to correspond to a ranking of the expected consequences of these alternatives. In this sense, fast-and-frugal heuristics do employ a logic of consequences. But it is important to emphasize that they do so in a way that is *adapted* to the type of information that is knowable, in the words of March and Simon, as the “real organizational context” (or, in other words *in the wild*).

The adaptive toolbox (Gigerenzer and Selten, 2002) resides at the more abstract level than fast-and-frugal heuristics because it includes heuristics as well as meta-heuristics for choosing heuristics (Marewski *et al.*, 2024). It is here that the logic of appropriateness enters the fast-and-frugal heuristics program. Strictly speaking, this logic matches persons (decision-makers) with situations (decision problems): “What does a person such as I do in a situation such as this?” (March, 1994, p. 58). More precisely, in the adaptive toolbox, decision problems are matched with heuristics or more generally decision models. For example, heuristic such as take-the-best, which decide based on only one cue and all other cues can be ignored, are matched with problems that have some kind of *dominance structure* (Şimşek, 2013). In such problems, one cue is more useful, in some well-defined sense, than all other cues put together, or one alternative is better, again in some well-defined sense, than all other alternatives. There is a formal theory showing that heuristics such as take-the-best are “optimal” or “near optimal” for problems with a dominance structure (Katsikopoulos, 2011).

The logic of appropriateness employed in the adaptive toolbox places a premium on models that are not only simple but also transparent (Katsikopoulos, 2023). That is, stakeholders in the decision process should be able to understand why the final decision was made and also be able to explain and communicate this rationale to others. Fast-and-frugal heuristics provide such transparency. For example, take-the-best would explain that start-up *X* was chosen because, say, its founder is more risk-seeking than the founder of start-up *Y*, where the risk-attitude cue is placed in the top of the hierarchy because of previous experience. This explanation is much clearer than saying that start-up *X* was chosen because a “rational” analysis somehow suggests that this start-up is predicted to achieve a higher return on investment than start-up *Y*.

The hybrid character of decision logics in the adaptive toolbox is also present in Newark’s (2018) logic of absurdity. Interestingly, the particular logic of consequences embodied by fast-and-frugal methods such as take-the-best can be used to reinterpret the logic of absurdity.

3.3 An alternative interpretation of the logic of absurdity

The “logic of the absurd” in decision-making is introduced in the literature of management in reference to leaders who make decisions in a context where their decisions have essentially no bearing on the organization’s performance (Newark, 2018). The Newark’s article begins by highlighting how leaders’ decisions may, in many cases, be largely inconsequential. Regardless of this, however, leaders may conduct rational analyses of the situation and then decide not based on logic of consequence or appropriateness, but rather on an impulse that expresses the decision-maker’s freedom – an impulse to which, consciously or unconsciously, they remain bound despite the consequences or the fact that it dictates behavior inappropriate to the situation (Goodwin, 1971). Behavioral choices may stem from a fundamental lack of confidence in the analysis’s ability – let’s say, of a technical nature – to capture events or conditions that may actually be at play in the context, leading to a different decision-making approach (March, 1976). However, what Newark proposes is not an analytical or behavioral

technique, but an alternative approach to those based on consequences or appropriateness. More precisely, Newark (2018, p. 204) defines the logic of absurdity as follows:

There are three essential components to the logic of absurdity: (1) a decision maker carries out a rational analysis that deems a particular course of action rationally unjustifiable; (2) a decision maker recognizes a strong, fundamental drive to carry out this same rationally unjustifiable course of action; and (3) a decision maker follows this drive while actively maintaining consciousness of the irrationality of doing so.

Newark's main application of the logic of absurdity is on the decision to lead under conditions of futility where no leadership can be effective (e.g. for "hopeless organizations"). The decision-maker correctly calculates and recognizes the expected consequences as negative but decides to lead anyway because the drive to do so is too strong to be overturned. Some people do have very strong drives to lead because of deep emotions and sense of duty.

An immediate reaction to this definition is that the logic of absurdity can be redefined as a logic of consequences where the effects of following one's drive, which are presumably very positive, are considered and found to offset the negative effects of leadership. Newark (2018, pp. 206–207, emphasis added) confronts this argument head-on:

This argument assumes that . . . these positive expected consequences [of following the drive to lead] . . . are sufficient to make [it] rationally justifiable . . . But it certainly need not follow that, if some benefit is anticipated, it must be sufficient to *compensate* for all the negative consequences the decision maker expects, sufficient to make this action utility maximising when compared to other decision alternatives, or sufficient to make this action satisfying when compared to aspiration level.

We acknowledge this objection. In fact, we find it convincing provided that one starts from an assumption that Newark does not make explicit. This assumption concerns the range of methods that can be used to evaluate consequences, which is not addressed exhaustively in the objection. Newark discusses full rationality and versions of bounded rationality such as satisficing. However, he does not take into account those versions of bounded rationality that employ fast and frugal heuristics and *do not* perform trade-off calculations (Gigerenzer and Selten, 2002). The "take-the-best" heuristic (Gigerenzer and Goldstein, 1996) is a case of this sort. In the example of startups, where "take-the-best" is used to rank the consequences of investing in startups *X* and *Y*, this calculation is performed in a *non-compensatory* manner: if the founder's risk attitude indicator is placed above the startup's sector indicator in the hierarchy used by "take-the-best," then no matter to what extent *Y* is superior to *X* in the sector indicator, this *will not* compensate for the fact that *X* is superior in the founder's indicator.

The above point implies that the logic of the absurd can be reinterpreted as a logic of consequences, as follows. It is clear that if (1) a person places the urge to drive above all other cues they use to decide whether to drive and (2) uses a non-compensatory method such as the "take-the-best" heuristic to make this decision, they will indeed decide to drive. And they would have done so based on a logic of consequences. That is, at least for some decision-makers, the logic of absurdity can be viewed as a logic of consequences in which the consequences are calculated using a non-compensatory method. Insofar as this calculation is rational and is followed by the decision-maker, this interpretation of the logic of absurdity is neither irrational nor absurd. Of course, we do not know whether such decision-makers exist. This is an empirical question. But the scenario presented here can, in principle, occur. The above analysis of the logic of absurdity in light of fast and frugal heuristics is important for the entire work. It helps highlight a significant convergence among different approaches to decision-making (those of March and Simon, Gigerenzer, and Eisenhardt), as shown in the following integrative and forward-looking discussion.

4. Implications of research approaches to heuristics and simple rules in management

This study has examined a number of conceptual links between three main research approaches on managerial decision-making: heuristics-and-biases; fast-and-frugal-heuristics;

simple rules. Whilst the topic of “simple rules” is explored in the fields of entrepreneurship and strategic management (Eisenhard and his colleagues belong to this disciplinary field), the topic of heuristics, on the other hand, has a more transdisciplinary background. In this paper, we compare the potential contribution of the debate on heuristics and ecological rationality within a management context, contrasting the approach to “simple rules” – which falls more within the scope of business management – with the main approaches to the study of heuristics, which is more transdisciplinary and has been developed primarily within the context of psychology.

Our research benefits from the growing attention in the management literature on meta-level decision-making as you are asking this question in the beginning, specifically, the question of which decision-making model to deploy in a given context. In the last years, there are developments in metacognition research that are directly relevant here, including work on meta-heuristics (Bastian *et al.*, 2026) and leadership (Cannon *et al.*, 2024), as well as contribution in the field of relationships and cognition. For example, Wang and Thai (2026) examine the cognitive processes of top management in relation to social capital through a study based on a survey on senior managers at Chinese companies. The study explores the perspectives of dynamic managerial capabilities and the cognitive mechanisms linking social capital and innovation outcomes. As a result, the research highlights a positive relationship between the relational and cognitive dimensions of social capital, on the one hand, and exploratory innovation in the companies surveyed, on the other (Wang and Thai, 2026). The role of personal networks in determining heuristic knowledge for innovation had already been highlighted in previous research (Guercini, 2012), but this study adopts a more nuanced approach by examining the role of top management’s reflexivity as a mediating variable between structural social capital and exploratory innovation (Wang and Thai, 2026).

The debate on heuristics highlights a number of conflicting views on the effectiveness and efficiency of heuristic decision-making models, but there is agreement on their widespread use and their importance is certainly acknowledged. This is by no means a given, and awareness of this fact can influence efforts to legitimize actual managerial decisions. But how can an overview of these three research approaches help managers or marketers who are trying to decide whether to rely on complex models or their own intuition when making decisions?

In the heuristics-and-biases approach, Tversky and Kahneman see heuristics as simplifications that might be necessary for solving challenging problems. Practitioners use heuristics as tools to improve performance, but they need to understand when these heuristics can lead to biases and how to use these models effectively in decision-making. How can one estimate if and how much time will a particular start-up survive? A known proxy, cue or attribute (these are all equivalent terms) of the start-up that correlates with success – for example whether the founder has shown that she can take calculated risks – can be used to do so (Kahneman and Frederick, 2002).

Our analysis confirms a connection between the “fast-and-frugal” and “simple rules” approaches that goes beyond a positive view of the potential effectiveness of heuristics. The network of ideas analyzed is extensive, but some research implications emerge clearly. First, March and Simon’s vision of studying and modeling decision-making *in the wild* is strongly present in the approaches of the fast-and-frugal-heuristics and simple rules. Second, these two approaches are based on the logic of consequences, but not in its traditional sense, which requires information – such as probabilities and utilities – that cannot be known under conditions of radical uncertainty in the real world (Knight, 1921; Lo and Müller, 2010), and relies on calculations that balance the different characteristics of the alternatives. Rather, the particular logic of consequences in fast-and-frugal heuristics and simple rules might use relatively simple and available information, and employ a non-compensatory method as in the take-the-best heuristic. Such a method is also consistent under specific conditions with the logic of absurdity. For example, a retailer might choose a supplier by using a heuristic such as elimination-by-aspects: all suppliers who have been late delivering in the past are eliminated, and then the supplier among the remaining ones is chosen that is least costly – here cost cannot compensate for tardiness (Katsikopoulos, 2023).

We have examined the three research approaches to heuristics and simple rules in light of the concepts of performance programs, strategy and decision logic to see how this might help advance or challenge current conceptions of bounded rationality, or how it might encourage a conceptual approach that could also serve as a guide for decision-makers.

Our discussion of heuristics is not based on any assumption regarding whether heuristics are employed in an unconscious automatic or conscious deliberative mode. [Kruglanski and Gigerenzer \(2011\)](#) examine arguments and evidence suggesting that heuristics are employed in both modes. For example, a decision-maker might employ the recognition heuristic and choose familiar options over unfamiliar ones, both consciously and unconsciously. Recent research on how marketing practitioners make decisions in export processes reveals that both forms are essentially present ([Guercini and Freeman, 2023](#)). And managerial heuristics such as “Hire well and let them do their job” can be used in both ways ([Artinger et al., 2015](#)).

5. Future research questions and some conclusions

The results of our discussion naturally lead to a number of research questions that can be pursued in the future, including the following: (1) What information, relevant for decision-making, is knowable in the wild by workers and organizations? (2) How do such agents acquire this information? (3) By what methods is the information processed in order to make decisions?

To be sure, these questions are too important to be completely novel. They have been raised, sometimes in other guises, in various literatures, including the literature on human factors and engineering psychology ([Hutchins, 1995](#)), and as said here the literature on fast-and-frugal heuristics and simple rules – in short, by research strands that do not unquestionably accept the tenet that *formal planning*, and its tools such as mathematical optimization, *does* describe how people make decisions. Consistently, [Vuori et al. \(2024\)](#) argue that research on organizations should pay more attention to the emergence, evolution and ecology of heuristics. Our contribution aims to highlight how an analysis of March and Simon’s work can still make further contributions on this topic, which is important given the increasing attention in various areas of management (see also [Gigerenzer et al., 2024](#); [Guercini, 2023](#); [Guercini and Milanesi, 2022](#); [Kotlar and Sieger, 2019](#)). To demonstrate the possible fruits of such future research, below we consider this article’s running example of entrepreneurial decision-making in the light of the three questions mentioned above.

First, by definition the real organizational context, the wild in the sense we said, cannot reliably provide numerically accurate information such as the probability that a start-up will be making profits within five years. But the wild can and does provide some relatively accurate and definitely useful information, such as a binary indicator that a start-up founder is risk seeking or risk averse (or a variable with more than two categories, such as risk seeking, risk neutral and risk averse). Descriptive studies, of the type run by Eisenhardt and her colleagues, with an added focus on the cue information used, would be a way forward to demonstrate that “meeting complexity with complexity can create more confusion than it resolves” ([Sull and Eisenhardt, 2015](#), p. 12).

Second, workers and organizations can employ standard practices for gathering market intelligence to get this cue information in the wild. It may be fashionable to allude to approaches such as big data analytics and AI – and those can definitely provide input to decision-making if they reach beyond quantitative information – but it has also been argued that such approaches cannot meaningfully explain or predict human decision-making ([Gigerenzer, 2022](#); [Katsikopoulos and Canellas, 2022](#)). One can go back to [Jerome Bruner \(1996\)](#), who emphasized that, in the field, decision-making might resemble activities like discourse that are supported by human capacities such as goal-directed social interaction and the strategic use of language. Note here the analogy to Gigerenzer and colleagues’ program ([Gigerenzer et al., 2011](#)) that explicitly grounds the fast-and-frugal heuristics of individuals on a diverse set of capacities such as sampling, counting or borrowing information from others ([Guercini and Lechner, 2025](#)). Of course, it is less clear how exactly such grounding plays out

in organizations. For example, whereas the individual capacities supporting fast-and-frugal heuristics are essentially effortless, organizational capabilities need to be consciously developed and nourished, and thus more empirical research is needed to flesh things out (for an example, see [Chaston and Sadler-Smith, 2012](#); for an effort to integrate the fast-and-frugal heuristics approach with organizational research, see [Reb et al., 2024](#)).

Third, we can again start from Bruner. We can paraphrase him and say that *decision-making means going beyond the information given*. And we can even go beyond information processing – one of Simon’s seminal contributions – and investigate entrepreneurial decision-making as wisdom ([Roszak, 1994](#)), gut feelings ([Gigerenzer, 2007](#)), improvisation ([Bingham and Eisenhardt, 2014](#)) and of course the holy grail of intuition ([Sadler-Smith, 2007](#)). A million-dollar question here is to what extent can such decision methods be modeled formally ([Hoffrage and Marewski, 2015](#); [Katsikopoulos et al., 2022](#)).

In conclusion, March and Simon had postulated that most human decision-making is not governed by planning by optimization. These two scholars went against what was then becoming the new religion of the decision sciences. In the terminology of [Ron Howard’s \(1992\)](#) incisive article “Heathens, heretics, and cults: The religious spectrum of decision aiding”, the likes of James March and Herb Simon, Gerd Gigerenzer and Kathleen Eisenhardt are heathens (outsiders) to the old-time religion of planning by optimization (more heathens include, among many others, Robyn Dawes, Robin Hogarth and Kenneth Hammond). By and large, the work of heathens has not been very welcomed by the old-time religion. But, to continue in the same motif, *to everything there is a season*; and one would like to think that now the time has come when the heathens will be ready to deliver more results and the old-time religion will be ready to listen more attentively.

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