Unsticking the Rationality Stalemate: Motivated Reasoning, Reality, and Irrationality

This is a Pre-Print version the Published Article, reference:

Kurdoglu, R., Lerner, D., & Ates, N. (2022). Unsticking the Rationality Stalemate: Motivated Reasoning, Reality, and Irrationality. *Journal of Business Venturing Insights*, 18, e00336. https://doi.org/10.1016/j.jbvi.2022.e00336

Highlights

- Rationality is an elusive and increasingly debated concept in entrepreneurship.
- Venturing is subject to extreme uncertainty where heuristics are ineffective.
- Motivational irrationality allows entrepreneurial action under extreme uncertainty.
- Investors should leave room for entrepreneurs' irrationality.

Abstract

Rationality is an elusive and increasingly debated concept in entrepreneurship research. We offer a novel conceptualization of rationality based on reasoning motivations. We posit that logical, probabilistic, and heuristic reasoning logics are motivationally rational because the decision-maker attempts to accurately perceive the external world and problem-solve (even if rapidly and approximately). By contrast, when the reasoning ignores an assessment of reality and accuracy in problem-solving, and instead is deluded by psychological (e.g., hedonic) urges that prompt self-serving inferences, we categorize such decisions as motivationally irrational. We develop a theoretical account for how motivational irrationality is adaptive under extreme uncertainty as it enables entrepreneurs to dare action when even heuristic reasoning is inconclusive or entirely ineffective.

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> *"…administrative theory must be concerned with the limits of rationality, and the manner in which organization affects these limits for the person making a decision."* (Simon, 1997, p. 323)

People do not always become entrepreneurs by intelligent or even remotely calculated choices. Imagine a Person A: a horticulturist with absolutely no interest, background, or training in business or economics. Despite having to provide for a 4-year-old child, a partner with a chronic progressive illness, and no income or health insurance outside of from her current employer, fed up, she quits to start a business. Or imagine a person B: a first-generation college graduate, lacking the experience, information, and perhaps the intelligence to foresee the consequences of his entrepreneurial endeavors, yet with a burning desire to start his own business. He can apply neither the formal techniques he learnt at school due to his lack of information about the market place nor any heuristics due to the lack of experience. With no actual grasp of reality and following an ill-defined imagined future, nevertheless, he takes the plunge. What is the basis for their actions?

Business venturing involves uncertainties and associated knowledge deficiencies that complicate or stymie decision-making (McMullen & Shepherd, 2006; Mitchell et al., 2007; Townsend et al., 2018). Therefore, whether and how to act are vital decisions for entrepreneurs. However, 'what it means to act rationally' in the entrepreneurial context is vague (e.g., Townsend et al., 2018; Hunt et al., 2022a). The entrepreneurship literature is conceptually inconclusive if not torn about rationality standards, as evidenced in the heated scholarly debates (Brown et al., 2018; Hunt & Lerner, 2018; Lerner et al., 2018; Packard & Bylund, 2021; Wiklund, 2019). For instance, it is unclear whether it is rational or irrational of decision-makers to rely on heuristics despite their widespread adoption in business (Busenitz & Barney, 1997; Kahneman & Tversky, 1996; Kruglanski & Gigerenzer, 2011) or on passion despite its profound influence on entrepreneurial behavior (Cardon et al., 2017; de Mol et al., 2020).

Scholars such as Kahneman (e.g., 2003) define rationality as compliance with the laws of logic and probability theory (i.e., the procedure-oriented norm of rationality). Unlike classical economists that assume rational actors, behavioral economists recognize the presence of human irrationality – illustrated by the quintessential title of Ariely's (2010) book "*Predictably Irrational*." However, behavioral economists retain classical economists' rationality standards as they also define rationality as being effectively comprised of logical and probabilistic rules.

This idealized view of rationality has been strongly criticized by the literature on the fast-and-frugal heuristics approach, which asserts that heuristics are ecologically rational under uncertainty (i.e., effective in adapting to uncertainty considering the cognitive and information limitations) (Gigerenzer, 2008; Gigerenzer & Gaissmaier, 2011). Such scholars assert that mathematical models that satisfy (traditional) the procedural norms of rationality suffer from imprecise and insufficient data under uncertainty. By contrast, heuristics relying on few salient cues provide fast and frugal decision-making opportunities that can produce satisfactory outcomes under uncertainty, and thus, can and seemingly should also be considered rational (e.g., Gigerenzer & Gaissmaier, 2011; Lejarraga & Pindard-Lejarraga, 2020).

However, alongside its merits, the fast-and-frugal approach has some limitations relevant to entrepreneurship. First, the favorability of heuristics only applies to situations where uncertainties are at moderate levels. When uncertainties are extreme, decision makers are unable to recognize salient cues to base the heuristic decisions on. For instance, an entrepreneur may not have enough experience to recognize the relevant heuristic cues, or the rapid rate of change in some industries may render past experiences and heuristics irrelevant (Vuori & Vuori, 2014); both cases place entrepreneurs under extreme uncertainty. Second, although the fast-and-frugal heuristics approach broadens the scope of rationality, it lacks the conceptual consideration and definition of irrationality independent of ecological justifications. This stance neglects seemingly irrational means of adaptation to uncertainty (e.g., blindly following passions). Third, this approach endorses a performance-oriented norm of rationality, assuming that individuals are trying to make the right or good decision for an expected outcome (Lerner et al., 2018). As such, it still presumes an intendedly rational decision-making, and cannot therefore, offer a basis for how decision makers act when they lack information or motivation for consequentialist approximate calculations or judgements.

To overcome these limitations, and to integrate the rapidly growing entrepreneurship research with irrational underpinnings of venturing, we offer a motivational view of rationality, and introduce the properties of motivationally irrational decision-making. We posit that a decision is motivationally rational if the decision-maker uses her reasoning for solving the problem at hand by truth-seeking (e.g., aiming to assess the viability of a business venture)[1]. As a corollary, a decision is motivationally irrational if the decision maker uses her reasoning for self-serving and empirically ungrounded inferences. Motivationally rational decisions are the ones where reasoning is motivated to engage with reality, and pursue problem resolution in line with it. By contrast, in motivationally irrational decisions, reasoning is motivated to be

[1] In line with the correspondence theory of truth, we suggest that truth is based on facts and logical relationships between facts (David, 2018).

disengaged with reality, and develop justifications to blindly pursue desires (i.e., without realistically considering consequences of decisions). Nevertheless, we do *not* suggest that rationality requires *gaining* an accurate understanding of reality and true causal relationships (factual understanding). Rather, the question is whether the reasoning behind a decision *seeks* a factual understanding for decision-making (motivationally rational) or is guided by alternative drives (motivationally irrational).

The core proposition of this study is that while entrepreneurs adaptively use motivationally rational heuristic reasoning to act under moderate uncertainty, motivationally irrational reasoning is adaptive under extreme uncertainty. Motivationally irrational reasoning can spark and sustain action helpful for learning and exploration under extreme uncertainty, that is, under situations where a decision-maker lacks in recognizing reality-inferencing (heuristic) cues or finds them too ambiguous to make a meaningful choice[2,3]. For instance, consider the two illustrative entrepreneurs presented at the outset. Similarly, radical innovation projects are often extremely uncertain, where typical routines and decision-making practices are not suited for capturing and assessing relevant cues, and fail to foresee success or failure (O'Connor & Rice, 2013). Under extreme uncertainty, it is not feasible to make meaningful heuristic inferences about the future and current realities. As such, extreme uncertainty negates the adaptive value of heuristic reasoning (e.g., Jiang & Tornikoski, 2019). However, as we elaborate in the rest of the paper, it is possible to adapt to extreme uncertainty by making motivationally irrational decisions.

[2] Extreme uncertainty is more severe than the uncertainty that Gigerenzer (2008) refers to in justifying the use of heuristics; he describes a level of uncertainty where there are still meaningful qualitative cues that can compensate the lack of probabilistic data. Extreme uncertainty is also more severe than what Dequech (2011) calls strong uncertainty. Dequech (2011) establishes the strength of uncertainty by the absence or unintelligibility of probability distributions rather than by the absence of qualitative cues, which we posit to be the sign of extreme uncertainty.

[3] Packard et al. (2017) state that uncertainty is absolute if both, set of outcomes and set of options, are open. Absolute uncertainty resembles our description of extreme uncertainty. However, we recognize that there can be different shades of absolute uncertainty (moderate vs extreme uncertainty) as perceived by the decision maker.

EXISTING RATIONALITY CONCEPTS *vs* THE MOTIVATIONAL VIEW

As Simon (1997) noted, rationality should always be referred to alongside an adverb (e.g., intendedly rational, motivationally rational, ecologically rational, and objectively rational) to avoid confusion. A decision is argued to be ecologically rational if it represents an adaptive fit between environmental conditions (mainly uncertainty levels and goals) and cognitive limitations (Gigerenzer et al., 2022). Here, the fit signifies "environmental conditions under which a given strategy performs better than other strategies" (Gigerenzer et al., 2022, p. 172). Nonetheless, the term *ecological rationality* can be problematic, especially in social sciences such as organizational and entrepreneurial studies. First, it involves a rationality norm that varies with environmental conditions (information availability and cognitive limitations). In this regard, the ecological rationality concept is more about adaptation than rationality. Concurrently, as entrepreneurship occurs in a social environment made up of highly complex phenomena, it is often not feasible to determine whether an entrepreneurial decision/action is (will be) ecologically rational. Moreover, the ecological rationality research only focuses on the adaptiveness of heuristics; it thus neglects the potential adaptiveness of motivationally irrational strategies when the level of uncertainty is so high as to render heuristic decision-making ineffective (e.g., in nascent venturing).

When a decision maker faces an action problem (i.e., what to do; e.g., whether to venture), she may use heuristic, logical, or probabilistic reasoning for the motivationally rational pursuit of accuracy in problem-solving. Heuristics aim at problem-solving in an accuracy-seeking manner that requires less effort than logical and probabilistic methods do (Shah & Oppenheimer, 2008). Heuristic reasoning draws on cues for making inferences about reality (Evans, 2002). Thus, truly heuristic reasoning is motivationally rational regardless of whether it is biased or adaptive (or ecologically rational) under uncertainty. However, there are some mislabeled heuristics (such as the congruence-heuristic-producing confirmation bias) that are, in fact, motivationally irrational, as they represent closed-mindedness rather than representing

a purposeful search for problem resolution. By contrast, the fast-and-frugal heuristics championed by Gigerenzer and his colleagues (e.g., Gigerenzer & Gaissmaier, 2011), for example, tallying (choosing an option by its number of favorable cues), take-the-best (choosing an option based on a single cue with a higher positive value), and 1/N (dividing investments into all available options) are all true heuristics because they represent intelligent strategies seeking accuracy in problem-solving by approximation. Table 1 provides a summary of our distinctions between different decision-making approaches.

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Accuracy in beliefs is often associated with epistemic rationality. In terms of epistemic rationality, accurate beliefs are rational, whereas inaccurate beliefs are irrational (Stanovich et al., 2016). However, this presents a problem in the context of entrepreneurship. Epistemic rationality does not really help judge the rationality of a decision under uncertainty since decision-makers do not precisely know what is true or what works best for them at the moment of decision-making. By contrast, our motivational rationality norm is about accuracy in motivations, rather than requiring actual accuracy of belief. Thus, our view does not require (omniscient) knowing of the actual accuracy of beliefs. This is particularly important for entrepreneurship as it is often entirely impossible to know the accuracy of a belief prior to considerable entrepreneurial action over time (Dimov, 2011; Lerner et al., 2018).

Other relevant concepts that can be problematic are the instrumental rationality and subjective rationality views. A decision is instrumentally rational if it is useful to achieve the desired ends (Colman, 2003). However, instrumental rationality would have little meaning and usefulness for scholarship as every human action is purposeful in some way (Mises, 1988). In a somewhat different way, “a decision is ‘subjectively’ rational if it maximizes attainment relative to the actual knowledge of the subject” (Simon, 1997, p. 85). Only decisions that later turn out to be counterproductive with respect to the decision-maker's goals can be treated as subjectively irrational (Packard & Bylund, 2021). As in the case of ecological rationality,

subjective rationality is challenging to determine at the time of decision-making when there is a high uncertainty. By contrast, while our view of motivational rationality also considers the decision-maker's subjective individual perspective (information level, perceived uncertainty as well as cognitive abilities), it concurrently offers a distinction from objective (ir)rationality based on reasoning motivations, which can be assessed at the time of decision-making.

Animal spirits: "In the face of this indeterminacy, Keynes suggested that 'animal spirits,' or a spontaneous urge to do something rather than nothing, guides the choices of economic actor[s]" (Alvarez & Porac, 2020, p. 736). Gigerenzer (2019) assumes that the animal spirits that Keynes (1936) refers to can be explored by studying the ecological rationality of heuristics. However, this is a highly debatable interpretation of Keynesian views. In fact, Hunt and colleagues (2022a) suggest Keynes' animal spirits refer to unreasoned or even irrational drivers of entrepreneurial action; Keynes (1936) explicitly stated that emotional urges drive overoptimistic action under highly uncertain circumstances, which we associate with motivationally irrational decisions of entrepreneurs. The potential adaptiveness of motivationally irrational decisions that are driven by (animalistic) urges[4] can be an interesting topic to explore for entrepreneurship researchers. Animal spirits can be particularly observed in the biological/psychological drivers of an action rather than in the intelligent choices of heuristics. For instance, some entrepreneurial decisions seem to be driven by dopaminergic sensation-seeking urges or anxiety-relieving wishful thinking (e.g., Lerner, Hatak, & Rauch, 2018; Seybert & Bloomfield, 2009; Wiklund et al., 2018).

Distinguishing our view of motivational rationality from intended rationality: Under uncertainty, one may pursue rationality as an intended process defined by Simon (1978). Simon and his students describe an intendedly rational choice (i.e., rationality) as a process that

[4] In this regard, consider that (animalistic) urges have led not just to adaptation but also to the evolution of species. This notion, and its connection with entrepreneurial action, has recently been suggested by others in this journal as well (Hunt, Lerner, & Ortiz-Hunt, 2022).

involves thinking about alternative choices, calculating future consequences of those choices, assigning preferences to the consequences of choices, and making intelligent decisions according to the preferences and calculated possibilities of consequences (March, 2006; Simon, 1978). Simon (1955) argued that while people generally intend to be rational in their decision-making, they are bounded by information deficiencies as well as by their cognitive limitations and psychological characteristics, which he attributed to human irrationality. Thus, for Simon, people do not purposefully think and act irrationally as a possible adaptive strategy; rather, people are unintendedly bounded by their irrationality.

While the concept of intended rationality partially overlaps with our motivational view of rationality, our norm of rationality is broader because it is not based on a thinking process, but on reasoning motivations. The advantage of our view is that it accounts for affective processes and considers them rational when serving motivationally rational reasoning. Moreover, Simon argues that irrationality limits a person's capacity to adapt (Simon, 1967; 1990), whereas we present irrationality as a unique adaptive strategy to drive action under extreme uncertainty. In this context, our view can explain adaptive functions of impulsivity, disinhibition (e.g., Lerner, 2016; Walker et al., 2020), and directionally motivated reasoning (e.g., Simon & Shrader, 2012), and provide nuanced explanations for factors like entrepreneurial passion (e.g., Cardon et al., 2017; Chandra et al., 2021).

ADAPTING TO EXTREME UNCERTAINTY

Entrepreneurs may dogmatically stick to their ungrounded beliefs (Parker, 2006) to adapt to extreme uncertainty, as demonstrated in Figure 1. We suggest that a decision-maker faces a choice among three different decision-making methods (i.e., analytics, heuristics and eristics)[5], offering different adaptive utilities under different levels of uncertainty. Motivationally rational

[5] The analytics method follows formal logic and probability theory to make decisions using mathematical calculations and logical inferences. Heuristics follow accuracy-seeking short-cut solutions to make decisions using intuitive calculations and personally reasonable inferences. By contrast, eristics follow self-serving wishful conclusions driven by psychological/hedonic (e.g., blindly following passions) or other needs that do not depend on accuracy in problem-solving.

approaches (analytics and heuristics) pay off with higher utilities due to their accuracy whenever uncertainty is negligible or moderate. In comparison, eristics (i.e., motivationally irrational reasoning) pay off with higher utilities when uncertainty is high, as eristics increase the action potential (enabled by a detachment from or disregard for accuracy in judgement and even perception of reality).

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As can be seen in Figure 1, when there is a negligible level of uncertainty (until point *a* in Figure 1), the highest levels of utility can be achieved by analytics (i.e., mathematical and probabilistic techniques) because of their superior accuracy in problem-solving. However, when the uncertainty level grows to moderate but is not extreme (from point *a* to point *c* in Figure 1), the problem at hand can be resolved more efficiently and sufficiently accurately by heuristics than by analytics (Gigerenzer & Gaissmaier, 2011)[6]. By contrast, when uncertainty reaches point *c* in Figure 1, eristics surpass heuristics in terms of adaptation value.

Uncertainty triggers anxiety alongside many aversive emotions (FeldmanHall & Shenhav, 2019; Hirsh et al., 2012), and yet, under extreme uncertainty, one may form untruthful beliefs that are instrumental in regulating aversive emotions artificially and increasing self-efficacy (Gross, 2015; Hayward et al., 2010; Lex et al., 2020). For instance, the feeling of lack of control that comes with uncertainty may lead to perceiving imaginary patterns (Whitson & Galinsky, 2008). Such irrational belief formations can be useful to adapt to extreme uncertainties because of the possible psychological gains like relief from anxiety (Damisch et al., 2010; Tsang, 2011). Supported by such beliefs, eristics can serve to relieve the feeling of lack of control or other such emotions and provide an impetus for action (by providing the morale to cope with the extremely uncertain situation), which can be useful for learning and future success. Overall,

[6] To keep the scope (and length) of our work restricted, we do not elaborate on effectuation, which is also a motivationally rational action strategy that employs heuristic principles and other intendedly rational reasoning for problem-solving where decision-makers "[assess their reality and] take a set of means as given and focus on selecting between the possible effects than can be created with that set of means" (Sarasvathy, 2001, p. 245).

we posit that the 'epistemic stance,' that is, the reasoning style, engagement with reality as well as beliefs and desires (Bhatia & Levina, 2020) may change to adapt to circumstances when the uncertainty becomes extreme.

DETECTING MOTIVATIONAL RATIONALITY AND IRRATIONALITY

The motivational rationality of a decision can be evaluated in practice according to whether decision-making is based on a realistic attempt to engage with reality or based on eristics. In this respect, the motivated reasoning literature (e.g., Bénabou & Tirole, 2016) can be helpful in devising measures of motivational rationality. Unlike the ecological rationality of a decision, which can only be evaluated *a priori* when the level of uncertainty is not very high such that the decision-maker (and researcher) has enough information to predict that her decision will turn out to be favourable, our view of motivational rationality enables *a priori* evaluations for high levels of uncertainty as well. Although it is empirically challenging to assess individuals' reasoning processes, entrepreneurship research (e.g., Davidsson et al., 2021; van Balen et al., 2019) has already shown that it is a feasible exercise. Methods like verbal protocol analysis (Ericsson & Simon, 1993) can be particularly useful in capturing the underlying reasoning motivations of entrepreneurs.

Researchers can assess whether entrepreneurial decision-making is motivationally (ir)rational. They can look for decisions realized under the influence of psychological mechanisms impairing the search for accurate assessments of reality and true causal relationships (i.e., observations and logical relationships that correspond to the facts). Motivational irrationality in venturing is manifested in blind faith (Ganzin et al., 2020), in a dogmatic stance to counter views (Kruglanski et al., 1993; Kruglanski & Webster, 1996), in impulsive reactions (e.g., Lerner et al., 2018; Wiklund et al., 2016; 2018), in wishful thinking or other forms of directionally motivated reasoning (e.g., Lowe & Ziedonis, 2006; Vosgerau, 2010), in emotional attachments like entrepreneurial passion (Cardon et al., 2009; Warnick et al., 2018), or in parental bonding to entrepreneurial activity (Lahti et al., 2019). Effects of

passion for or bonding with an entrepreneurial idea can also be linked to conditions such as ADHD (Attention-deficit/hyperactivity disorder) (Hatak et al., 2020; Wiklund et al., 2018).

It is worth noting that we do not claim that pursuit of passion is motivationally irrational per se; however, it is motivationally irrational if the pursuit is made impetuously because of an overwhelming influence of passion. Broadly speaking, we may expect *obsessive passion* to be generally associated with motivationally irrational decision-making, whereas *harmonious passion* (cf. Ho & Pollack, 2014) to underlie motivationally rational decision-making. Following the passion *for* venturing *obsessively* (e.g., not considering or even disregarding a reality-based assessment of one's prospects) would be motivationally irrational; alternatively, following a *harmonious* passion for industry may drive attention to and assessment of venturing prospects (e.g., whether and how to venture, versus say, seeking employment in the industry), which would be motivationally rational.

The emotional properties of obsessive passions are different from the properties of affect heuristics; obsessive passion impedes accuracy in reasoning, whereas affect heuristics facilitate accuracy in reasoning. Affect heuristics draw on emotions as sensemaking cues (Slovic et al., 2007). By contrast, an obsessive passion causes stable identity-setting emotional ties with an activity, an object, or a person, where desires may interfere with accuracy-seeking motives (Cardon et al., 2005; Vallerand, 2008). As such, decision-making utilizing affect heuristics is motivationally rational, whereas that is not the case with decisions *overwhelmed* by passion.

Motivationally irrational decisions are characterized by reasoning motivated to satisfy hedonic desires with illusions rather than seeking accurate solutions to non-hedonic problems. Hedonic problems (e.g., how to feel good?) can also be handled by rational or irrational reasoning– they can be resolved rationally by finding solutions based on facts (e.g., improving mood by exercising or by preparing to leave an abusive workplace) or irrationally by self-deception and illusion. Nonetheless, motivationally irrational decisions in venturing can be instrumentally rational as well as adaptive. Motivational irrationality is eristic, that is, it aims

at winning with disrespect for reality (cf. Nehamas, 1990 for the meaning of eristic). For instance, research on superstitions and supernatural beliefs (Boden, 2015; Damisch et al., 2010; Risen, 2016; Whitson & Galinsky, 2008) indicates that motivational irrationality can be beneficial in increasing confidence and decreasing sense of anxiety. Research also demonstrates that motivational irrationality can be useful in suppressing the fear of failure in the face of uncertainty (Kollmann et al., 2017). In this context, Ganzin et al. (2020, pp. 89–90) quote an expression of a founder CEO who explains motivationally irrational thinking: " '*tell the universe what you want'… then, there is a positive effect there."*

CONCLUSION

Entrepreneurial decisions inevitably involve "expectations of an imagined future" (Chiles et al., 2016, p. 467), which are potentially driven by future predictions. Yet, these expectations may also be formed without an actual consideration of reality (i.e., reality may be totally ignored, or even *reality be damned*), leading to motivationally irrational decisions -- which may nevertheless be a way to go forward under extreme uncertainty. One needs to consider how much more limited the benefits of entrepreneurial imagination (Kier & McMullen, 2018) would be if entrepreneurs were limited in their action to motivationally rational thinking alone.

Revisiting the two entrepreneurs cited in the opening paragraph: Persons A and B both experience extreme uncertainty levels where even the fast-and-frugal heuristics are elusive. Hence, they instead take motivationally irrational decisions. Will Person A's new venture be profitable enough cover housing, food, and the indeterminate health-care and other expenses of her spouse and 4-year-old? Will Person B's passion for his start up compensate for his lack of information and experience? Motivationally irrational decisions allow action under extreme uncertainty without having reliable answers to such questions. Even though motivationally irrational decisions are often more conducive to failure than intendedly rational decisions, they may still be adaptive to their unforeseen long-term consequences. As March (2006, p. 201) says "[s]urvival may also be served by the heroism of fools and the blindness of true believers".

Consequently, we offer some practical implications. First, entrepreneurship education lays a heavy emphasis on intelligently made choices (either analytically or heuristically) (Kuratko, 2005; Pittaway & Cope, 2007); and while recent pedagogy work considers ecological rationality (Lejarraga & Pindard-Lejarra, 2020; Bhatia & Levina, 2020), we go further. We suggest that relying on formal logic or heuristics can stifle entrepreneurial action when the venturer experiences extreme uncertainty — which is arguably not rare. Second, venture investors should leave room for divergent motivations when uncertainty is extreme, since such tolerance for motivational irrationality may result in favorable outcomes, or at least catalyze action (that leads to learning and uncertainty reduction) as opposed to inaction (that misses opportunities). On a related note, entrepreneurs may allow themselves to indulge untruthful beliefs and irrational motivations to take action in the face of extreme uncertainty; with action (and attention) over time, they can reduce uncertainty to levels where motivationally rational decision making subsequently becomes adaptive. Concurrently, we caution practitioners to not idealize eristic motives or rosy popular press narratives; many venturing activities are served by logical reasoning (Lerner, Hunt, & Verheul 2018) especially as uncertainty diminishes.

Our work also creates a common ground in the heated rationality debate among entrepreneurship scholars (Brown et al., 2018; Packard & Bylund, 2021; Hunt & Lerner, 2018; Lerner et al., 2018; Wiklund, 2019), where seemingly disparate perspectives and theories can connect in their understanding of idiosyncratic human behavior, and in their mutual insights into the problems of decision-making undergirding entrepreneurial action. Furthermore, our perspective helps to unstick the protracted stalemate between the perspectives of Kahneman and Tversky (1996), and Gigerenzer (2008) who are influential in the entrepreneurial decision-making literature. While we appreciate Gigerenzer's views for his elegant elaboration of the adaptiveness of heuristics, we argue that his approach omits the adaptiveness of motivationally irrational decisions. We neither glorify nor demonize irrationality as we simply elaborate on how motivationally rational and irrational decisions differ, and how they can be adaptive

depending on the uncertainty level. We also go beyond Simon's (1978) bounded and intended rationality concept by recognizing the adaptive potential of motivationally irrational decisions. As such, we offer a constructive path forward for understanding human decision-making, irrationality, and the implications of irrationality in entrepreneurship and beyond.

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TABLE 1

Decision-Making Approaches and Their Features

	Motivationally Rational		*Motivationally Irrational*
	Analytical (Logic and Probability)	Heuristic	Eristic
Inferences	Logically or statistically reliable inferences	Subjectively reasonable albeit biased inferences	Spurious one-sided inferences
Reasoning	Deductive reasoning (e.g., mathematics) or inductive reasoning disciplined by deductive reasoning (e.g., statistics)	Heuristic reasoning by intuitions, experience, and social learning	Non-epistemic eristic reasoning by blind faith, dogmas, impulsive instincts, wishful thinking, or emotional attachments
Goals	Accuracy in focal problem-solving with logical precision or with calculated risks	Approximate accuracy in focal problem-solving	Hedonic or material gains that can be achieved without accuracy in focal problem-solving

FIGURE 1

Adaptive Utility of Decision-Making Methods Under Uncertainty