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A Call for Research to Prospect and Establish the Scholarly AI Frontiers

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Editorial

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Artificial Intelligence and Entrepreneurship: A Call for Research to Prospect and Establish the Scholarly AI Frontiers

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Abstract

Entrepreneurship has entered a new era shaped by artificial intelligence (AI), demanding accelerated scholarly advances to keep pace with this transformative technology—yet this demands that academics bridge the gap between the AI revolution's ambiguities and meaningful scholarly contributions. To motivate and guide future research on AI's transformative role in entrepreneurship, we introduce an ongoing special issue in *Entrepreneurship Theory and Practice* (*ETP*) and outline multiple compelling opportunities for future research. Unlike typical editorials, we offer a prospective vision—rather than retrospective, after the articles have been accepted and published—at this project's outset, to empower the field to prospect and establish new scholarly foundations in the relatively uncharted world of AI in the domain of entrepreneurship. Accordingly, we highlight the "AI PEN" (**P**rospecting and **E**stablishing **N**exus) as a desirable research approach to advance this literature going forward. We hope, and anticipate, that our invitation to submit proposals to this special issue facilitates novel empirical as well as theory-focused contributions to the literature.

Keywords

artificial intelligence, AI, entrepreneurship, entrepreneurs, practice, research, theory, transformative

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Introduction

Discourse on the topic of artificial intelligence (AI) is everywhere—media, lay public, universities, government, etc. There is a general consensus across these conversations that AI provides the springboard for a host of disruptive innovations, and that exploring this new frontier often feels like traveling through the "Wild West"—that is, there are limitless horizons, massive inflows of people, ideas, and resources, as well as comparatively few established norms and solid infrastructure. It thus remains largely unclear how exactly AI is transforming the world—and how the world should respond to this transformation with scientific rigor and informed guidelines and regulations (Bengio et al., 2024).

This sense of overwhelming and infinite possibilities has sparked intense debate in the domain of entrepreneurship. Opinions range from *AI will replace human entrepreneurs!* to *No, AI will simply turbocharge entrepreneurs' productivity!* or *Nah, AI is merely hype*. As it stands right now, there is a dearth of theories to guide research and practice on AI's importance for entrepreneurship, there is ambiguity surrounding relevant research methods for studying the entrepreneurial mobilization of AI, and there is a general lack of evidence-based knowledge on the changing entrepreneurial practices that AI enables. All these factors combine to exert inertial forces that deepen the quagmire in which we—as entrepreneurs and entrepreneurship scholars—find ourselves (Acar & Bastian, 2024). To break away from this predicament and foster a better understanding of AI's transformative power, we believe that our field needs a new push—new scholarship that guides entrepreneurial theory and practice as well as also informs the creation and adaptation of entrepreneurship policies and relevant regulations enabling effective, evidence-based, decision-making.

Pioneering works such as Chalmers et al. (2021), Lévesque et al. (2022), Obschonka and Audretsch (2020), as well as Shepherd and Majchrzak (2022) have spurred new developments, investigations, and practices in the emerging research stream on AI in entrepreneurship—and the recent rise of generative AI alongside existing uses of predictive AI have only made these efforts more pressing. Exploring the AI frontier in entrepreneurship thus requires researchers to consider the nature and implications of both AI paradigms (generative and predictive AI). In the spirit of pioneering, and the "Wild West," we urge scholars to balance the adventurous spirit of *prospecting* the implications of generative and predictive AI with deep "old school" scientific rigor for *establishing* the scholarly foundations (e.g., theories, definitions, methods, frameworks, paradigms, empirical evidence) undergirding such explorations. This balancing act points to the need for studies that advance our theoretical understanding of AI's nature and effects for both the research and practice of entrepreneurship—we need studies that are conceptually rigorous, and methodologically sound, and we need to develop reproduceable evidence and testable theory which can yield a solid foundation for this literature to grow and thrive. Such aims could be accomplished either within a single research project (e.g., a research paper engaging in both prospecting and establishing) or within an emerging literature or stream of related projects within the field (e.g., one study focusing more on prospecting and another more on establishing) to ensure cross-fertility/synergy between prospecting and establishing.

Regarding this ongoing special issue at *Entrepreneurship Theory and Practice* (*ETP*) on the transformative role of AI for entrepreneurship, below we provide a brief overview of the primary types of disruptive AI (predictive vs. generative), followed by an outline of illustrative research questions that could be submitted to the special issue. Following our discussion on how AI might impact entrepreneurship research and practice, we conclude with details about this ongoing special issue in *ETP*—including "dos and don'ts"—and guidance on how to proceed with eventual proposals and full submissions.

AI Is Not All the Same: Predictive Versus Generative AI

Currently—in early months of 2025—a widely adopted classification system distinguishes between *predictive* and *generative* AI (Hermann & Puntoni, 2024). These are different forms of AI which each serve unique functions and purposes. While generative AI is currently receiving much of the spotlight in public and scientific debate, *both* forms of AI are transforming entrepreneurship practice and research. Recognizing the distinctions between them is essential, not only for effectively navigating and leveraging AI's capabilities but also for driving focused scholarly advancements in the entrepreneurship domain. We briefly discuss both forms of AI below, followed by a list of applications in entrepreneurship research and practice.

Predictive AI: The Untapped Potential of an "Old Friend" and the Sea of Data

Among several studies that mobilize predictive AI and big data in entrepreneurship, we note efforts to test the effectiveness of machine-generated investment decisions (Blohm et al., 2022), predict entrepreneurial activity with data from the Global Entrepreneurship Monitor (Schade & Schuhmacher, 2023), predict new ventures' gestation outcomes (Koumbarakis & Volery, 2023), investigate the psychology of entrepreneurs (Fisch & Block, 2021; Obschonka et al., 2017; Williamson et al., 2022), and research the entrepreneurial culture of different regions (Obschonka et al., 2020). With the rapid technological advances in predictive AI, the increasing ease of its use and the growing availability of large datasets, we invite entrepreneurship scholars to use their creativity and entrepreneurial spirit by adopting predictive AI methods by actively engaging in the "data game" and discovering, and harnessing, the vast amounts of data that already exist on, among other things, nascent and new entrepreneurs, their startups, entrepreneurial ecosystems, their culture, and their policies (Grégoire et al., 2024). This may also involve the process of generating synthetic data (van Breugel et al., 2024).

To illustrate, consider the potential of using nuanced satellite data to study the spatial dynamics of entrepreneurial ecosystems (Yeh et al., 2020) or the everyday devices we hold in our hands—mobile phones—and all that these can offer for anonymously tracking encounters within a network of entrepreneurs and stakeholders. The sheer volume of data that mobile phones, social media, and other networked infrastructures can produce each day for research purposes (when used ethically) is staggering (Bayer et al., 2020; Grégoire et al., 2024; Harari & Gosling, 2023; Zachlod et al., 2022). Currently, as one example, simple wearable technology is ubiquitous (e.g., smartwatches, wristbands) and such devices gather an astoundingly large amount of data that academics can now use for a variety of research aims—including well-being, physiological, and behavioral data (e.g., stress levels, heart rate variability, sleep patterns)—offering valuable insights into how entrepreneurial activities impact mental and physical health.

However, we must acknowledge the limitations of predictive AI when pursuing such research opportunities. Inherent biases in the underlying data might be amplified, leading to inconsistencies in interpretation and major ethical concerns (Landers & Behrend, 2023). Also, overreliance on historical data may not capture today's rapidly changing conditions—not to mention the challenges of addressing the high levels of radical uncertainty that many entrepreneurial projects must contend with, by their very nature. Hence, training data may need to be augmented with real-time and external data sources and feedback loops to update models with recent information. Other limitations are the lack of interpretability that can arise in complex predictive models and the potential of overfitting.

This occurs when a predictive model tries to fit itself to the training data too closely, leading to inaccurate predictions. Moreover, although predictive models are good at identifying correlational patterns, they can struggle to distinguish between correlation and causation. Despite these limitations, leveraging predictive AI alongside innovative datasets holds great potential to advance the field. By incorporating diverse and real-time data sources, predictive AI can provide deeper insights, enabling us to better understand trends, interactions, and the factors that shape entrepreneurship at a larger scale.[1]

Generative AI: A New Marvel in Town

In contrast to predictive AI, generative AI can "create" new content or solutions based on learned patterns from existing data. In practice, generative AI became possible and relevant with advances in natural language processing, particularly following the introduction of the Transformer architecture (Vaswani et al., 2023), which marked a momentous shift by enabling computers to better understand and process human language. The Transformer approach overcame the limitation of previous methods for teaching computers to understand language by leveraging "attention mechanisms." The Transformer architecture allows for the interpretation and processing of textual requests, which brought a major turning point in deep learning research and applicability across multiple domains.

Building on this breakthrough, generative AI is now accessible and user-friendly, which has enabled hundreds of millions to engage with it. The *Economist*'s 2023 word of the year—ChatGPT (i.e., Generative Pre-trained Transformer)—is emblematic and new human–machine interaction skills (e.g., prompting) have become essential for effectively working with generative AI tools (Ferrati et al., 2024; Mollick, 2024). Today's AI is revolutionizing the workforce, sparking both concern and excitement about the automation of numerous tasks, including those requiring high levels of skill and creativity. Recent discussions suggest that nearly half of all work tasks in the United States could potentially be automated by AI, even without further advancements in AI capabilities (Eloundou et al., 2024; Felten et al., 2023). Yet, recognizing the lack of clear insights on how reliable these projections are is crucial.

Academic work has started documenting substantial productivity gains in a wide range of creative and knowledge intensive tasks such as coding (Peng et al., 2023), creative writing (Doshi & Hauser, 2024), professional business tasks (Noy & Zhang, 2023), ideation (Girotra et al., 2023), strategic management (Dell'Acqua et al., 2023), and legal services (Choi et al., 2023). Surprisingly, these tasks remain largely unexplored by entrepreneurship scholars despite the growing ubiquity of generative AI applications. Particularly in the context of entrepreneurial uncertainty—where unknowns are truly unknowns and probabilities cannot be assigned—generative AI could be advantageous. Though generative AI might not reduce uncertainty in the traditional sense, it can offer new approaches to managing it, providing innovative pathways that predictive models alone cannot reveal.

For instance, generative AI could offer entrepreneurs a toolkit for (a) idea generation for new businesses or product concepts, (b) rapid prototype development, using specific design algorithms, that create innovative product exemplars, (c) synthetic, automated, interviews as part of market research, (d) content creation for marketing activities, product descriptions, and business plans (thus saving time and resources while maintaining creativity), and (e) business model innovation by producing scenarios and evaluating their potential impact and feasibility. Generative AI can also (f) craft personalized service responses, (g) develop compelling subject lines and work summaries, (h) write sales emails, (i)

translate natural language into code, (j) act as a commerce concierge, (k) assist with coding through chat interfaces, and (l) create tailored market segments—among many other tasks inherent to developing a new business venture.

Like predictive AI, generative AI comes with its own set of limitations. One issue is the quality and originality of generated content, which can sometimes be generic or lack the creativity and variety of human-generated ideas (Doshi & Hauser, 2024). Ethical concerns also exist about the potential misuse of generative AI for creating deepfakes or other deceptive content, let alone concerns that generative AI can generate near-copycats that closely resemble otherwise existing businesses and/or people (see, e.g., Ganguly, 2024). Also, generative AI models require large amounts of data and computational resources, which can be a barrier for smaller firms. Another challenge is ensuring that the generated content aligns with a brand's voice and style, which can be difficult without substantial customization, and there is already intense deliberation on potentially very costly quality issues such as AI hallucinations and biases (Bengio et al., 2024; Landers & Behrend, 2023; Leiser et al., 2024).

Making Scholarly Contributions: The "AI PEN" (Prospecting and Establishing Nexus)

Scholarship, essentially, encompasses creativity and critical thinking, empowered by the combination of (multi-, inter-, and/or trans-disciplinary) theory development, empirical evidence, evidence-based decision-making, practice insights, and innovative research methods. Scholarship creates, disseminates, and updates the academic foundations of a field (e.g., theories and research methods). In the uncharted world of AI where rapid technological advancements and the constant emergence of new AI-based tools create a continually evolving landscape, scholarly inquiry requires some level of ambidexterity for both prospecting (by seeking untested territories) and for establishing foundations for the scholarly AI frontiers in entrepreneurship.

Figure 1 illustrates this notion by returning to the "Wild West" analogy to represent the status of today's AI landscape. Prospecting-type contributions (Figure 1, left side) require a short-term entrepreneurial discovery approach to entrepreneurship scholarship that can fail at times (its potential is risky), but with low failure costs. Informed by this prospecting, establishing-type contributions (Figure 1, right side) require deep, long-term scientific orientation to build the new foundations and infrastructure for entrepreneurship scholarship in the uncharted world of AI. With these foundations and infrastructures in place, the field can then rely on a revised solid base to further explore and establish the scholarly AI frontiers in entrepreneurship.

Prospecting requires some risk-taking. At times, prospecting might put researchers outside their comfort zone. It could involve planning an AI-focused project with new kinds of data, requiring new types of AI models/methods (e.g., predictive and/or generative), with collaborators from various disciplines, and/or addressing new research questions with very little knowhow in the field. Alternatively, it could involve theorizing attempts for new phenomena (e.g., algorithmic entrepreneurship) that are challenging due to the opaque nature of AI (Rai, 2020), in addition to the "black box" character of the entrepreneurship phenomenon (uncertainty; Townsend et al., 2023, 2024). Theorizing about AI can be difficult when AI applications are moving targets owing to rapid technological progress.

Nonetheless, prospecting has important scholarly value because it can make discoveries and test revolutionary ideas by keeping the costs of failure relatively low (e.g., due to the

Figure 1. Entrepreneurship scholarship in the uncharted world of artificial intelligence: scholarly prospecting and establishing nexus.
Note. Picture was created with GPT-4.0.

ease of replication empowered by AI tools), enabling researchers and the field to "fall forward" when apparent discoveries or bold ideas turn out to be misleading (McGrath, 1999). Akin to prospecting during the gold rush when many attempts neither led to mines nor towns around them (with all the needed infrastructure), without prospecting our field cannot flourish (Bakker & Shepherd, 2017).

On the other hand, the *establishing* component of the AI PEN approach to entrepreneurship scholarship requires building on the findings from the prospecting efforts to focus on promising research targets that can create new solid foundations (e.g., theories, paradigms, and research methods). These foundations are the scholarly infrastructure that carries the field into the future, like the towns emerging from the gold rush. In turn, establishing these foundations will enable new prospecting and the establishment of further scholarly AI frontiers.

Although scholarly foundations in the AI era may end up looking not so different than the current ones, we currently *do not know* how the field will be impacted by the AI revolution. We—the guest editors of this ongoing special issue—take the position that it is the combination of prospecting as well as establishing that will help make authentic advances

in these new territories. Consistent with this line of thinking, we assert our case for the prospecting + establishing nexus. By definition, a "nexus" is "a connection or series of connections linking two or more things (see Oxford Dictionary)." To inspire and guide impactful research, we invite scholars interested in submitting to this ongoing special issue to consider how and why their work contributes to build meaningful connections across both prospecting and establishing, predictive and generative, and research and practice.

Future Research Opportunities

Below, we highlight a selection of general research themes that, among others, may deserve particular attention in future research. These are broad themes that can be addressed with any type of AI (e.g., predictive, generative, or both). Because they significantly differ, however, research must consider both the benefits as well as the limitations of each type used (or their combination).

Entrepreneurial Risk and Uncertainty

Overcoming the uncertainty that unavoidably interferes with efforts to introduce innovative products, services, and "ways of doing business" is often highlighted as representing the essence of entrepreneurship (McGrath, 1999; McKelvie et al., 2011; McMullen & Shepherd, 2006). An interesting question thus arises: can AI help entrepreneurs manage one's exposure to potential downside risks and losses, let alone help them overcome the "uncertainty fog" (or at least, alleviate some ambiguity)? Already, lively debates are unfolding on such questions (Ramoglou et al., 2024; Townsend et al., 2023, 2024), underscoring this theme's fundamental nature and importance. If prior contributions offer conceptual guidance, however, limited empirical evidence exist on AI's impact for tackling entrepreneurial uncertainty. Sample research questions in this area could include

- To what extent can (predictive and/or generative) AI influence an individual (or team) who consider starting a new venture—or pivoting an existing idea—if AI indicates a favorable (or unfavorable) trend toward their idea? What theoretical mechanism(s) or principle(s) may condition this influence? Why should this occur?
- In what ways and to what extent might AI (predictive and/or generative) affect perceived uncertainty by nascent and new entrepreneurs regarding product-market fit, intentions, and subsequent behavior regarding entrepreneurial activities? Why should this be the case? What explains this influence?
- How can policymakers and entrepreneurship service organizations leverage AI (both predictive and generative AI) to provide needed assistance—and training—within their ecosystems to aspiring and nascent entrepreneurs to reduce failure rates? What governs this influence?
- In what areas of the uncertain entrepreneurial process, and for what specific tasks, can AI (predictive and/or generative) lead to higher-quality outputs and higher productivity (Dell'Acqua et al., 2023; Inie et al., 2023)? Why should this be the case? What explains this?

Capabilities Across the Entrepreneurial Lifespan

The entrepreneurship process involves multiple stages, from ideation (prelaunch) to idea exploration and implementation (launch) to growing a venture to exiting (postlaunch) (Frese & Gielnik, 2023). AI has the potential to transform every stage of the entrepreneurial process.

First, in the *prelaunch phase*, AI—and generative AI in particular—can assist with ideation (Boussioux et al., 2024; de Cremer et al., 2023; Dell'Acqua et al., 2023; Girotra et al., 2023; Guzik et al., 2023). Research suggests that generative AI may positively influence the quality and efficiency of opportunity ideation (Boussioux et al., 2024; Girotra et al., 2023). Put simply, AI could effectively enable entrepreneurship by enhancing idea generation, resource access, and operational efficiency (Davidsson & Sufyan, 2023; Haase & Hanel, 2023). Sample research questions here include

- What synergistic effects exist at the intersection of human–AI interaction. For example, if human-generated ideas offer more novelty, and AI-generated ideas tend to deliver better environmental and financial value (Boussioux et al., 2024), what can entrepreneurs do to enact the most effective ideation process? And what theory notion would explain this?
- Might the extent to which generative-AI still rests on algorithmic extensions from known patterns come to limit the creative insightfulness and sheer novelty of AI-generated ideas, by contrast to that of ideas generated by human experts?
- At the individual (micro) level, how does generative AI enable individuals to be more creative and entrepreneurial? At the macrolevel, does generative AI—collectively—lead to less creativity and entrepreneurial output in terms of diversity of ideas and projects (creative convergence; Doshi & Hauser, 2024). In both cases, what theoretical mechanism(s), notion(s), and/or principle(s) explain this?
- In what ways does greater individual creativity and productivity via AI come at the expense of entrepreneurial distinctiveness within the economy? Why is this the case?
- Might AI help aspiring and existing entrepreneurs develop more impactful idea such as enabling better solutions to environmental and societal issues? Why?
- How might we reconcile AI's potential benefits with its need for massive energy consumption? What principles should guide such reconciliation?
- Might entrepreneurs be more likely to tackle grand challenges with AI's support, such as the United Nation's Sustainable Development Goals (e.g., poverty, health, and well-being)? Why?

The *launch phase* is also undergoing a significant transformation due to the advent of AI (Kim & Maher, 2023; Thoring et al., 2023). The democratization of design is one of the most notable changes brought about by AI, thereby impacting minimum viable product (MVP) developments. With AI's growing capabilities, the future may see everyone becoming a designer of sorts, with the primary role shifting from creation to curation. This transition is akin to evolving from traditional sketch artists to "prompt designers" who guide AI in producing a wide array of innovative designs. This shift will enable a more expansive exploration of design possibilities, leading to more efficient and novel product development. Moreover, with the cost of digital product creation trending toward zero, as suggested by early experiments with GPT-4 (Bubeck et al., 2023), even those with little design or coding experience can now build MVPs rapidly. This acceleration and automation of the go-to-market process, from market research to product launch and marketing, imply

unprecedented efficiency gains. Furthermore, AI (and again, generative AI in particular) has the potential to reshape many activities required during the launch phase. For example, AI can become an accounting and financial assistant by simplifying tasks such as financial report preparation and financial risk analysis, thereby facilitating quicker analysis and better decision-making (Schonthal, 2023).

In sum, AI could herald the advent of the "leanest form of lean startup," with minimal human action, profoundly impacting the innovation process and the pace of business launches. Here, sample research questions include

- How can AI be used to augment/copilot human creativity and support "smart entrepreneurship" (Obschonka & Audretsch, 2020) during the launch phase? What mechanism(s), notion(s), and/or principle(s) could help guide such augmentations?
- In what ways does AI (both predictive and generative) make the venture launch process more efficient? Why is this the case? How much time can AI save here—and can AI produce a greater propensity for ventures to survive past expected thresholds?
- What are the implications for entrepreneurship at the micro- (Shepherd & Majchrzak, 2022) and macrolevels (Norbäck & Persson, 2024) if AI can provide for free, or almost free, "white-collar" type capabilities? What specific tasks can entrepreneurs outsource to AI? And do these time-savings translate to important personal (e.g., less stress, greater life satisfaction, decreased role conflict) and professional (e.g., subjective and objective early-stage firm performance) outcomes? Can this yield a practical "theory" of AI efficiencies?
- If AI can accomplish key activities that have typically needed to be done by entrepreneurs (e.g., marketing, sales, accounting), in what ways do the fundamental tenets of entrepreneurship education and pedagogy need to adapt accordingly? Why? How should entrepreneurial education evolve to cultivate necessary competencies (Winkler et al., 2023) such as AI literacy to train AI-savvy individuals to more successfully launch businesses?

During the *postlaunch phase*, AI has the potential to influence business growth, resilience, and survival. By acting as a support mechanism, AI could enable entrepreneurs to make better data-driven decisions regarding product-market optimization, making operations more efficient, and navigating the complexities of scaling a business. Many postlaunch actions can be done with AI—such as analyzing market trends and consumer behaviors, using AI-driven systems to personalize customer interactions and automate sales processes, and performing financial analysis and forecasting. However, some might assert that even if these functions are critical for business success and sustainability, they are less aligned with the core topics of interest in the field of entrepreneurial actions, which often focus on decision-making under uncertainty and the initial phases of venture creation. Nonetheless, interesting research questions exist here, including

- In what ways can more established entrepreneurs, postlaunch, save time and energy related to, among others, logistics, pricing, finances, and human resource process using AI? What principle(s) should guide their actions in this regard?
- Are ventures actively guided by AI more likely to survive and thrive? What explains this?

- Can small retailing ventures more effectively compete with larger retailers like Amazon and Home Depot by using AI-focused insights? Why does AI influence a firm's competitive advantage relative to peers in the marketplace?
- How does AI support the scaling process via, for example, optimizing resource allocation, automating processes, improving decision-making, facilitating marketing strategies, innovation, financial management, and human resource and talent management? What theoretical notions explain such advantages?
- What are the ethical challenges in leveraging AI for scaling decisions in startups, why, and how can these challenges be mitigated?

Entrepreneurial Cognition

Multiple opportunities for research also exist at the confluence of AI and entrepreneurs' cognition. One fascinating topic to explore is the "copilot role" of AI in building entrepreneurial resilience, in general, and during crises or business emergencies—situation where uncertainty is very high. The study of the entrepreneur–AI nexus enables examination of metacognition, the process of "thinking about thinking" (Haynie et al., 2010). Scholars could investigate how AI supports entrepreneurial metacognition by helping entrepreneurs to reflect on past decisions and outcomes and highlighting areas for improvement, thereby fostering a continuous learning loop. This exploration could provide valuable insights into how AI can support entrepreneurs in navigating and overcoming obstacles and challenges, thereby enhancing their ability to sustain and row their ventures in turbulent times (Shore et al., 2024). Nonetheless, the complexity of AI introduces cognitive challenges, such as AI-induced mental strain from trying to understand, manage, and oversee the AI's outputs (often considered a "black box"; Hassija et al., 2024). Hence, this research stream could shed light on the balance between leveraging AI capabilities and maintaining human oversight to mitigate the risks of AI-induced errors and "techno stress." Sample research questions for the cognition stream could include

- Do more experienced entrepreneurs use AI differently, or more effectively, than newer entrepreneurs, thereby highlighting cognitive differences in the application of the human–AI interface? What explains such differences?
- How might AI represent an antecedent of entrepreneurial action by augmenting the cognitive resources of the entrepreneur? Will, how might, and why might AI change how entrepreneurs think and make decisions under uncertainty? For example, will AI enhance alertness (which is the unique ability of entrepreneurs to notice opportunities that others overlook) and if so, why?
- Can AI facilitate entrepreneurs' cognitive connections across disparate sources, enabling entrepreneurs to imagine radically novel venture ideas, rather than simply copying or modifying known possibilities? Where is AI's greatest influence in all this, and why?
- Can AI bolster entrepreneurs' motivation to start (and persistence) by drawing connections across disparate sources and augmenting the entrepreneur's human capital?
- How might AI influence entrepreneurs' passion (Cardon et al., 2009) for conducting cognitive tasks that they do not typically enjoy or want to master? Why? Conversely, will over-reliance on AI for knowledge-intensive tasks lead to skill degradation over time and, paradoxically, lead to declines in creative thinking and problem-solving? What might explain this?

- Can AI serve as an external cognitive resource and provide feedback, insights information, and analogies that entrepreneurs can consider and learn from? Or might AI tools lead to entrepreneurs' unrealistic expectations, such as overconfidence? What mechanism(s), notion(s) and/or principle(s) might facilitate (or hinder) such effects? Why?
- Will AI reduce or exacerbate cognitive biases? How so? Why?
- To what extent does the rapid pace of AI development, which can be disorienting, requiring constant adaptation, learning, and oversight, lead to cognitive overload rather than reduction? What governing principle(s) explain such variations?
- How can we apply the field of AI as a theoretical tool for a cognitive science of entrepreneurship (Van Rooij et al., 2024) and vice versa (Hagendorff & Fabi, 2024)? How so? Why?
- Given that AI has the potential to alleviate stress by reducing cognitive strain and serving as a decision copilot, how might it affect entrepreneurial cognition and well-being (Shir et al., 2019; Wiklund et al., 2019)—stress levels, work and life satisfaction, psychological need fulfillment such as sense of autonomy?

Democratization of Entrepreneurship

Issues that pertain to the democratization of entrepreneurship—making entrepreneurship accessible to the many rather than the few (or the opposite)—represent one of the most exciting and evolving frontiers in entrepreneurial research (Audretsch & Moog, 2022; Welter, 2011). With AI tools reducing barriers to entry, new opportunities arise for aspiring entrepreneurs from diverse backgrounds to engage in business creation. However, this same AI revolution could also exacerbate existing inequalities by concentrating resources and power in the hands of a few organizations capable of developing cutting-edge technologies. Research is needed to explore whether AI enhances inclusivity in entrepreneurship, or if it amplifies the advantages of established, resource-rich entrepreneurs, further widening disparities. Additionally, it is important to examine whether AI serves as a tool that empowers entrepreneurs (in all their diversity) and supports democratic values—where "democracy" truly means rule by the people—or whether the opposite unfolds, where AI increasingly dominates human decision-making, resulting in a form of "algocracy." Vital research questions exist here, including

- Entrepreneurship involves varied tasks, which can impact an individual's sense of fit. With AI taking over some tasks, how might this influence those aspiring to start ventures as a society try to grow through innovation? Why?
- Resource scarcity is a critical entrepreneurial challenge (Baker & Nelson, 2005). How might AI increase (or reduce?) disparities between resource-rich and resource-poor entrepreneurs? What theoretical mechanism(s), notion(s), or principle(s) might explain such effects?
- Generative AI may boost productivity, but the resource-intensive nature of large language models could concentrate power among those able to develop them, undermining AI's potential to level the playing field. What action(s) and/or infrastructure(s) could help counter such effects and what could govern the effectiveness of such action(s)/infrastructure(s)?
- Can AI reduce barriers to entrepreneurship by bridging gaps in skills, or will it further the dominance of "superstar" entrepreneurs (Economist, 2023)? Why?

Policy and Regulation

The AI revolution has triggered urgent discussions on policy and regulation across various sectors, and entrepreneurship is no exception (Bengio et al., 2024). In the AI era, entrepreneurship research must increasingly focus on the development of policies and regulatory frameworks that can both harness the benefits and mitigate the risks of AI-driven entrepreneurship. This entails examining how regulations can foster innovation while ensuring ethical AI use, data protection, and equitable access to AI technologies for all entrepreneurs. Entrepreneurship policies will need to adapt to accommodate AI's transformative potential, influencing how governments support startups, manage competition, and regulate AI-driven ventures. Furthermore, research should investigate the role of AI in shaping regulatory environments that balance the encouragement of innovation with the need to protect consumers, address privacy concerns, and ensure responsible AI deployment. As AI continues to reshape markets and business models, entrepreneurship scholars should delve into how policies can promote sustainable and inclusive growth while navigating the evolving challenges presented by the AI revolution. Sample research questions for the entrepreneurship policy stream include:

- A main research topic centers around policy, regulation, and related institutional factors and changes (Chalmers et al., 2021; European Commission, 2024). How can rigorous entrepreneurship scholarship inform policymakers in this space (Hannigan et al., 2022)? Of particular importance might be the regulatory frameworks countries have in place, or plan to implement, and how they can enable or constrain AI-driven entrepreneurship.[2] What fundamental principles should guide actions in this regard, and why?
- As researchers, can we play a role in ensuring that AI will have a positive, rather than an overall negative, impact on society, given the deep concerns shaping the scientific and public debate on major risks of AI (Bengio et al., 2024)? How can we "tame" the power of AI with policies and regulations while ensuring the thriving of the entrepreneurial sector, against the background of unfolding general political and societal changes (Audretsch & Moog, 2022)?
- With the traditional narrative that automation primarily threatens low-skilled jobs being challenged, with a new wave of AI poised to transform high-skilled, white-collar professions (Eloundou et al., 2024; Felten et al., 2023), how will the rise of AI, which uniquely impacts high-skilled and high-paying white-collar jobs, alter the landscape of entrepreneurship? Are there policy decisions that need to evolve here? How so? Why?
- Given a shift (owing to AI) in executive and market preferences from technical skills (e.g., STEM) to a greater emphasis on people skills (IBM, 2023; World Economic Forum, 2023), will this evolving labor market paradigm lead to realignment in the relative value and economic rewards of distinct skill sets and how will this shift affect entrepreneurs and their businesses in the short run? Is this a market-based issue or a policy issue? Why so?

Entrepreneurship Scholars' Engagement in AI-focused Research

Ambidextrous scholars—those who engage in exploration, who experiment, play, discover, innovate, are flexible, and take risks, but who also exploit their discoveries to refine, choose, select, implement, and execute (March, 1991)—are likely to be advantaged in the

AI era. Hence, a supportive scholarly environment for these scholars requires academic journals that create secure spaces where ambidexterity can flourish. This *ETP* special issue's call for research is to prospect *as well as* establish the scholarly AI frontiers. Even though ongoing discussions debate whether AI might have the potential to make entrepreneurship scholars more productive as they increasingly operate in a work environment described as moving from scarcity (e.g., writing skills, analytical ability) to abundance due to the power of AI (Grimes et al., 2023), scholars might need new forms of preparation and training to become ambidextrous as they keep track (and make use) of rapid technological changes implied by AI (Gofman & Jin, 2024; Obschonka & Audretsch, 2020). Sample research questions in this regard include

- If AI can now do things (e.g., data analysis and/or coding, literature reviews, and text generation) that have typically needed to be done by expert hands and minds, do the essential principles of entrepreneurship-focused doctoral education and pedagogy need to change? In what ways can AI-based tools advance researchers careers more effectively and efficiently improving diversity, equality, and inclusion in the field of entrepreneurship (Landers & Behrend, 2023)?
- Will the advent of AI inspire a greater number of quantitative, qualitative, and/or mixed-methods studies? For example, will the relative ease of using AI-based textual data analysis increase the number of qualitatively inclined scholars?
- How does AI improve our research tools and research methods, given the benefits of machine augmenting in the research process (Davidsson & Sufyan, 2023)? In what ways does AI improve or lessen the potential of generating more impactful research insights that can advance the field? For example, how can AI be leveraged to help develop more effective and efficient measurement scales for a new generation of studies on entrepreneurship (Götz et al., 2024)?
- Theoretical contribution represents a central pillar in entrepreneurship scholarship, which requires continuous theory testing, elaboration, and building (Shepherd & Suddaby, 2017). Building on Lévesque et al.'s (2022) call to embrace an entrepreneurial research orientation for new studies by using AI for both theory testing and building (e.g., some sort of risk-taking as researchers), in what ways can AI be leveraged to help make important theoretical contributions to the field. How can AI help build and test theory (Chou et al., 2023), and develop new theories (e.g., theories on algorithmic entrepreneurship or AI-enabled entrepreneurial ecosystems)?
- In both quantitative (Maula & Stam, 2020) and qualitative (Van Burg et al., 2022) studies, how can AI improve rigor? Can AI substantially improve our scientific methods and increase research productivity (e.g., human-produced literature reviews; Robledo et al., 2023) in such a way that results are more reliable? Will AI-based analyses and findings be more (or less) replicable across studies over time?
- While the vast potential of the transformative power of AI is exciting, it also raises essential questions of quality and evaluation (Obschonka & Lévesque, 2024). How valid and reliable is AI in the specific case of entrepreneurship research (as well as practice)? What are the quality standards that can be measured? How do we deal with the often-cited black-box nature of AI, which can make it difficult for humans (or machines) to evaluate the quality of its outputs and processes (Klauschen et al., 2024; Messeri & Crockett, 2024; Rai, 2020)?

- How can we accelerate intervention and evaluation research focused on the AI era in entrepreneurship to produce solid empirical evidence that reduces the ambiguity surrounding this era?
- What changes do entrepreneurship journals (and editors, reviewers, authors) need to make to account for the use of AI in research? What ethical issues should be considered? Can we build and update an ethical framework for AI in entrepreneurship research to cope with such new challenges and protect the scientific integrity of research (Blau et al., 2024). In this vein, what can scholars do to enable responsible use of AI in research (Gatrell et al., 2024).

The Ongoing Special Issue in *ETP*

We provide the following insights into the type of manuscripts that we see as particularly suited (or unsuited) for this special issue in *ETP*, and we offer more editorial tips and submission information to guide interested authors.

Manuscripts Particularly Well-Suited for the Special Issue

We welcome all types of manuscripts addressing the transformative impact of predictive AI, generative AI, and other emerging AI technologies on entrepreneurship as both a domain of practice and a scholarly field. For this special issue, consistent with *ETP's* aims and submission guidelines, manuscripts must make strong scholarly contributions that advance entrepreneurship scholarship and practice in meaningful ways. To facilitate this, we proposed a nexus between prospecting and establishing within entrepreneurship scholarship—the AI PEN approach, and we encourage scholars, in their research, to note which category is applicable, perhaps one or both.

This nexus between prospecting and establishing can happen within a single manuscript by, for instance, exploring a host of bold ideas and then testing these ideas with unbiased data and rigorous methods for both theory testing and building. It can also happen when, in an entrepreneurship subfield, prospecting studies (or anecdotal evidence from practice) already exist and engaging in the establishing type of contributions (e.g., subjecting the exploratory findings to the highest level of scientific rigor to help build theories or research standards) can be guided by this prospecting. While prospecting scholarship alone is also appreciated, even if it might be light on engaging with theory or rigorous empirical testing, the goal of the special issue is to generate lasting contributions that will continue to advance the field for years.

We are particularly eager to see research addressing at least one of the abovementioned themes, and we want to reiterate the importance of theory (Lévesque et al., 2022) and evidence-based perspectives (Frese et al., 2014). We welcome conceptual and/or empirical research, as well as mixed methods. Consistent with *ETP's* mission, standards, and reputation, it will be important for new research to apply the highest standards of conceptual and methodological rigor. Though many research questions and projects that can be addressed with AI methods may score high on the interestingness scale, focusing on interestingness alone will not be sufficient. Our team will thus favor AI-related research questions and projects that are interesting *as well as* rigorous and impactful (Newbert et al., 2022). By the same token, submitting authors should not forget that such AI methods can have a powerful dark side (e.g., in part uncharted limitations and ethical concerns). We will thus welcome manuscripts that proactively address related questions.

Manuscripts Not Well-Suited for the Special Issue

Having discussed the kind of manuscripts that would fare well in our special issue, we deem it useful to also share a few observations about the types of manuscripts that would have a lesser fit:

- We do not encourage manuscripts that purely report descriptive case studies, such as those documenting how entrepreneurs (can) use AI tools (i.e., without substantive theory building).
- Manuscripts that are too broad in topic and/or mainly anchored in another field are less suitable. For example, if a manuscript mostly focuses on human resources and the ways AI tools could be used for selecting or allocating human resources in business startups, it might mostly contribute to the human resource literature, and less so to entrepreneurship research.
- Manuscripts must be written for an entrepreneurship-related audience (e.g., entrepreneurship scholars, practitioners, educators). This means that if a manuscript is too technical (e.g., in terms of AI-related data science), its understandability and evaluation could be compromised. This would also concern us in the review process. We do not necessarily discourage such manuscripts, but such contributions should be written in ways that entrepreneurship stakeholders can understand and use, and that reviewers can digest and provide feedback on.
- If the manuscripts are too light in theory, they will be at a disadvantage. We acknowledge that with AI methods and data abundance, some scholars might find it particularly interesting to engage in data-driven research to identify patterns and mechanisms that theory would not have predicted ("let the data speak")—an approach particularly suitable for the prospecting-type contributions. Nevertheless, theory must be present in a sufficiently prominent way such as, but not limited to, mapping existing theoretical frameworks in the chosen research space and guiding new establishing-type research for theory building and testing. We do note that *ETP* publishes multiple types of articles, including editorials, original articles, as well as four types of research briefs (methodological briefs, theoretical briefs, replications, and registered reports).
- Although our special issue has a deep appreciation for cutting-edge AI methods, we do not encourage authors to simply use AI (e.g., generative AI) to produce theories or research results without the highest level of scientific rigor, such as thoroughly addressing AI limitations. Authors must adhere to the journal's guidelines and rules on the use of AI in research and research articles. We acknowledge that these guidelines and rules may be subject to change; therefore, it is essential for authors to follow the most current guidelines in place when submitting proposals or manuscripts.

Next Steps Regarding Submissions to the Special Issue

In this editorial, we issue a scholarly call to action to stimulate and guide more research on transformative AI and entrepreneurship. Our utmost hope is that the new generation of research in this space will carve out distinct and transformative implications for the entrepreneurship domain. To this end, we offer suggestions for how to be most successful in conducting research at the intersection of AI and entrepreneurship in the hope that our viewpoint as guest co-editors will help scholars focus their research efforts on developing, publishing, and encouraging research in this area. If you have an idea for a research article

at the intersection of AI and entrepreneurship, we strongly encourage you to consider submitting it to this special issue at *ETP*. Importantly, we aim for an accelerated review process given the prominence of the topic: submissions will be accepted on a rolling basis, with a rapid review process, and online publication immediately once a manuscript is accepted.

The procedure regarding submissions to the special issue has three steps, explained below.

Step 1: Proposal Submission. Authors must submit a proposal (maximum of 10 double-space pages, 12-point font, 1-inch margins). References, tables, and figures are not counted toward the 10-page length requirement. Informal inquiries relating to proposed topics and potential fit with the objectives are welcomed. Please direct them to one of the guest co-editors.Proposals can be submitted to the journal manuscript central system at https://mc.manuscriptcentral.com/etp *on an ongoing basis* until January 31, 2026 (early submissions are encouraged and can be made immediately). The special issue's guest editorial team will screen the proposals and invite the most promising for submission as full manuscripts—the editors will provide feedback on all submitted proposals. This will happen promptly (e.g., within two weeks) after each proposal is submitted.

Step 2: Full Paper Submission. Invited submissions of full manuscripts should be prepared using the journal manuscript preparation guidelines at https://journals.sagepub.com/author-instructions/etp. Manuscripts will undergo the journal's standard double-blind peer review process (i.e., up to two rounds of double-blind reviews by referees with any additional rounds deemed necessary handled by the guest co-editors). Manuscripts should again be submitted through the journal manuscript central system (https://mc.manuscriptcentral.com/etp), preferably within 6 months after proposal submission. If a manuscript is rejected (as a desk reject or in the normal review process) because of insufficient quality, and a reject-and-resubmit decision is not granted by the guest co-editors, then the submitting authors may not submit that manuscript again to *ETP* as a "normal" article.

Step 3: Publication. This is a virtual special issue. Hence, no strict limitation exists on the number of accepted manuscripts. This also means that there is no final single publication deadline for the special issue. The published manuscripts will be cumulatively grouped online, with each being published as soon as it is accepted and has undergone the normal publication process—in other words, no delay in publishing because of the cumulative virtual grouping of accepted articles.

Conclusion

The intersection of AI and entrepreneurship presents both unprecedented opportunities and challenges. As scholars, we must lead the way in understanding and harnessing AI's potential to drive innovation, enhance decision-making, and foster sustainable entrepreneurial growth. By integrating AI into our research agendas, exploring its ethical implications, and engaging in interdisciplinary thinking, we can contribute to a future where AI empowers entrepreneurs to achieve greater success and societal impact. Let this be a call to action for all entrepreneurship scholars to embrace AI and guide its integration into the entrepreneurial landscape with an entrepreneurial spirit that embodies rigor, ethics, and foresight.

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Notes

1. The United States' National Institute of Standards and Technology—the primary R&D lab for the nation—has published a comprehensive risk management framework for AI that outlines potential risks such as data privacy, confabulation, over- and under-reliance, bias, and AI used to generate harmful technologies. The lab notes that these risks can come from human actions or the model itself. Both sources are worthy of study by entrepreneurship scholars.
2. For example, recently the European Union implemented the EU AI Act—the world's first comprehensive AI law (European Commission, 2024): https://www.europarl.europa.eu/topics/en/article/20230601STO93804/eu-ai-act-first-regulation-on-artificial-intelligence.

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