Entrepreneurial Cognition and Artificial Intelligence Adoption—Contingency Role of Innovation Ecosystem Resource Mobilization and Entrepreneurial Bricolage

MOSTAFIZ, Md Imtiaz <http://orcid.org/0000-0002-4362-4521>, AHMED, Farhad Uddin, AHAMMAD, Mohammad Faisal and RAHMAN, Puteh Noraihan A

R&D Management

R&D MANAGEMENT

RESEARCH ARTICLE OPEN ACCESS

Digital Technologies and Innovation Ecosystems in the Post-Pandemic Era

Entrepreneurial Cognition and Artificial Intelligence Adoption—Contingency Role of Innovation Ecosystem Resource Mobilization and Entrepreneurial Bricolage

Md Imtiaz Mostafiz[1,2] | Farhad Uddin Ahmed[3] | Mohammad Faisal Ahammad[4] | Puteh Noraihan A. Rahman[5]

[1]University of Leicester, Leicester, UK | [2]Miyan Research Institute, IUBAT, Dhaka, Bangladesh | [3]Maynooth University, Kildare, Ireland | [4]University of Leeds, Leeds, UK | [5]Pusat Pengajian CITRA Universiti, Universiti Kebangsaan Malaysia, Bandar Baru Bangi, Malaysia

Correspondence: Md Imtiaz Mostafiz (aadirt@gmail.com; mim16@leicester.ac.uk)

Received: 15 March 2023 | **Revised:** 10 April 2025 | **Accepted:** 17 May 2025

Funding: The authors received no specific funding for this work.

Keywords: entrepreneurial bricolage | entrepreneurial cognition | innovation ecosystem | resource mobilization

ABSTRACT

The integration of artificial intelligence (AI) is reshaping the mechanisms by which firms operate. To better understand this integration, this study aimed to answer how entrepreneurs' belief systems and mental frameworks shape their intention to AI adoption, particularly within an ecosystem, where firms are characterized by bricolage. With a focus on the Information and Communications Technology (ICT) ecosystem (i.e., a vanguard in embracing AI), we propose a rhetoric theoretical framework of entrepreneurial cognition, resource mobilization from the ecosystem, and bricolage. Grounded in the social cognitive theory, we investigate 236 firms operating in the ICT sector in Bangladesh using structural equation modeling. Key findings from our study evident the positive impact of entrepreneurial cognition on firms' inclination towards AI adoption. Intriguingly, this relationship is further strengthened when entrepreneurial cognition is coupled with the mobilization of resources within the ecosystem. In the context of an emerging economy like Bangladesh, the principle of bricolage also plays a crucial role in overcoming resource constraints through resourcefulness and creativity. The research concludes with implications for policymakers and suggestions for future studies.

1 | Introduction

Due to the technological breakthroughs in recent times, firms are keen to adopt different advanced digital technologies to design new data-driven product/service offerings and enhance business models (Soluk et al. 2021). Of different advanced digital technologies, in recent times, artificial intelligence (AI)[1] has proven to be a powerful enabler for firms to scale operations by leveraging its benefits and to be successful in the long run (Chalmers et al. 2021)—a technological breakthrough in the digital space that is changing the ways in which organizations operate and deal with emerging challenges (Li et al. 2021; Lokuge et al. 2019). However, this technological shift is not just an isolated event; it warrants a profound transformation in the way entrepreneurs think and make strategic decisions (Obschonka et al. 2024), which is a requirement of significant resource commitment to AI's adoption. A recent survey by McKinsey and Co (2023) reveals the explosive growth and use of AI tools by individuals around the world. In tandem, research on AI has increased significantly in recent years to enrich knowledge of the technological aspect and economic outcomes of AI usage (Chalmers et al. 2021; Lévesque et al. 2022). What existing literature seems to overlook is the prerequisites and enablers for AI adoption (Kinkel et al. 2022; Kemp 2024). In particular, despite the growing importance of AI adoption among entrepreneurial firms (Kyprianou et al. 2024; Uriarte et al. 2025), scholars

remain silent, offering critical nausea on entrepreneurial determinants of advanced technology adoption intention. What prevails within the innovation, marketing, and IT literature are the drivers of customer's behavioral intentions' toward adopting a range of advanced technologies, such as internet banking, cloud computing and other personal technologies (see, e.g., Bettiga and Lamberti 2017; Boateng et al. 2016; Ratten 2013) and lacks a critical investigation of how entrepreneurs' characteristics (i.e., cognition—mental models and belief system) shape their approach towards embracing AI technologies (Townsend and Hunt 2019).

We address this critical research gap by addressing the following question: *to what extent does entrepreneurial cognition influence the adoption of AI?* Advancing the knowledge on cognitive underpinnings is so critical to illuminate why some entrepreneurs are more adept at integrating AI, while others are hesitant or failed to do so effectively—given that the benefit of adopting AI is not an uncanny charter. Mitchell et al. (2002) define entrepreneurial cognition as "the knowledge structures that people use to make assessments, judgments, or decisions involving opportunity evaluation and venture creation and growth" (97). It is also required to quickly adapt to changing market conditions, identify and pursue new opportunities, overcome challenges (Shepherd and Patzelt 2018), and adopt new strategies (Eggers and Kaplan 2009). The dominant view was that entrepreneurship was driven primarily by external factors, such as access to resources and market demand (Jarillo 1989). However, organizations do not innovate and see opportunities, but individuals do (Krueger 2003). This implies that entrepreneurial cognition is more likely to be critical in influencing strategic decisions (Kiss et al. 2015). Therefore, entrepreneurs who delay adopting AI may risk losing competitive advantages, including improved efficiency, data-driven insights, and market positioning (Gupta et al. 2023)—which ties back to entrepreneurial cognition, as cognitive frameworks shape how entrepreneurs perceive and interpret utilities (Zahra et al. 2005). Despite the influential role of cognition (Roundy and Im 2024) in strategy formulation, empirical insight into how entrepreneurial cognition affects technology adoption intention (i.e., AI) remains absent in the literature. Our study acknowledges this knowledge gap and unpacks the interplay between entrepreneurs' cognition and AI adoption intention.

However, adopting AI technologies is a resource-consuming process and may involve continuous knowledge flow into the system. AI works on existing knowledge, and the effectiveness of AI-generated output depends on the richness of that knowledge (Daugherty and Wilson 2018). In the knowledge flow process, two distinct yet interconnected challenges could emerge for entrepreneurs. *On the one hand*, AI is continuously evolving and changing; therefore, entrepreneurs need access to the latest information in order to stay up-to-date and make informed decisions (Gupta et al. 2023). This could be achieved through tapping into the knowledge resources of the ecosystem—accumulating knowledge from ecosystem actors (i.e., suppliers, competitors, other stakeholders) regarding markets, technologies, R&D, and innovative business models (Oh et al. 2016; Radziwon et al. 2022; Robertson et al. 2023). Therefore, entrepreneurs create ties with other actors within the ecosystem to initiate *resource mobilization*[2] (Thornton et al. 2019). The knowledge resources from the innovation ecosystem could influence entrepreneurs to adopt AI because certain business opportunities may only be recognized through leveraging AI (Townsend and Hunt 2019). Following this logic, we expect a contingency role of *innovation ecosystem resource mobilization* in the relationship between entrepreneurial cognition and AI adoption intention. Entrepreneurs could feel more confident in adopting AI when internal knowledge deficiency can be marginalized by knowledge and resources flowing in from an innovative ecosystem. Thus, the moderation role of innovation ecosystem resource mobilization highlights a multifaceted dynamic, where both the external resources and internal cognitive processes could critically influence the strategic decision to adopt AI. Therefore, our study also seeks to answer another important question: to *what extent does resource mobilization from an innovative ecosystem influence the relationship between entrepreneurial cognition and AI adoption?* We shift the focus from a purely resource perspective to a more integrated perspective by recognizing the nuances of cognitive factors and ecosystem dynamics in navigating the intricacies of AI adoption intention among entrepreneurial firms.

On the other hand, entrepreneurial firms from emerging economies, such as Bangladesh, are resource-constrained (Mostafiz, Hughes, et al. 2022). They need to rely on internal resources due to weak institutional support to stay competitive (Ahmed and Brennan 2019). In this process, firms need to creatively solve problems and create value by applying combinations of the resources at hand (Baker and Nelson 2005; Guo et al. 2018). *Entrepreneurial bricolage*[3] is a concept that refers to the ability of entrepreneurs to create value out of existing resources creatively and innovatively (Guo et al. 2016). While entrepreneurs' beliefs, attitudes, and cognitive frameworks shape their intention to adopt AI, practicality and resourcefulness are equally critical. This necessitates a confluence of entrepreneurial cognition and bricolage, enabling firms to creatively optimize limited resources and overcome technology adoption barriers. In this light, entrepreneurial cognition and bricolage converge, becoming indispensable for firms that intend to integrate AI into their operations. The necessity of bricolage in the context of AI adoption in emerging economies stems from its unique ability to address specific challenges where traditional resource-based approaches often fall short. Hence, we addressed the question of *how bricolage influences the relationship between entrepreneurial cognition and AI adoption?* Rooted in resourcefulness and ingenuity, bricolage enables firms to overcome limitations such as restricted access to capital, technology, and institutional support (Baker and Nelson 2005; Senyard et al. 2014). In our research context, the capacity to improvise and innovate with available resources is not just advantageous but essential (Vakratsas and Ma 2009). This distinguishes bricolage from strategies like financial investments or large-scale innovation initiatives, which may be less feasible or relevant in resource-constrained environments like Bangladesh.

The contributions of the study are three-fold. Our study begins the conversation to shed light on a missing but essential facet of "contemporary" entrepreneurship (Bullough and Renko 2013) and digitalization by evidencing entrepreneurial cognition as the precursor to technology adoption intention. We underpin our argument based on social cognitive theory (SCT). Bandura (1989) postulates that learning occurs within a social

context and is processed by individual cognition—a concept that proves potent when examining how entrepreneurs decide to integrate technologies. We corroborate SCT's arguments concerning behavioral predictions and advance the theory further by mapping this cognitive dimension into the technological adoption domain. In doing so, we fill a critical research gap around SCT from an entrepreneurial cognition perspective (McMullen et al. 2014) and advance SCT by demonstrating its applicability and relevance in understanding the interplay between cognitive factors and technology adoption in entrepreneurship. Our findings also advance the knowledge by proving the necessity of resource mobilization stemming from the innovation ecosystem and bricolage as they strengthen the nexus between entrepreneurial cognition and AI adoption intention. This contribution is especially meaningful in recognizing how the innovative utilization of available resources (i.e., bricolage) and the knowledge flow from the ecosystem can bolster cognitive predispositions towards new technology adoption. While advanced economies are ahead in AI adoption (Horowitz 2018), emerging economies are also trying to level up (Bag et al. 2021). Since emerging economy entrepreneurial firms suffer entropy (Gu 2023), our research framework provides theoretical treatment of how (i.e., resources sourced from innovation ecosystem) and under what condition (i.e., the strength of entrepreneurial bricolage) an emerging economy entrepreneurial firms can amplify the cognitive readiness to adopt AI. This exploration enriches the body of knowledge on entrepreneurial cognition and technology adoption and offers actionable insights for entrepreneurial firms within emerging economies striving to harness new technologies to secure a competitive advantage.

2 | Literature Review

2.1 | Entrepreneurial Cognition

Entrepreneurial cognition is a field that examines the knowledge structures entrepreneurs use to make assessments, judgments, or decisions involving value creation and growth (Mitchell et al. 2002). It is a domain where psychological insights intersect with entrepreneurial behavior, offering a lens through which to understand how entrepreneurs perceive and navigate their business landscapes (Kuratko and Covin 2025). Early research by Baron (1998) and Mitchell et al. (2002) set the stage by exploring how entrepreneurs' cognitive processes differ from random individuals, suggesting that these unique patterns of thinking significantly influence decision-making. They established that successful entrepreneurs often display cognitive adaptability, allowing them to recognize patterns and opportunities that others overlook (Mitchell et al. 2004). Building on this, studies have expanded the scope of entrepreneurial cognition to consider the impact of identity (Stevenson et al. 2024) and resilience (Baroncelli et al. 2024). For instance, Grégoire et al. (2010) hold that cognitive flexibility and counterfactual thinking could enable entrepreneurs to adopt and pivot their strategies more effectively.

As the digital transformation accelerates, research has begun to focus on how these cognitive factors influence decision-making. For instance, Obschonka and Audretsch (2020) argued that the digital mindset of an entrepreneur—a component of entrepreneurial cognition—is crucial in adopting new technologies. They found that entrepreneurs with a strong digital orientation are more likely to recognize digital technologies when creating new business models. Likewise, Liñán and Fayolle (2015) also note the importance of cognitive aspects in understanding the intention and argue that intentions are influenced by personal attitudes, subjective norms, and perceived behavioral control. Expanding this framework, Fischer and Reuber (2011) explore the concept of entrepreneurial alertness to technological opportunities, arguing that cognitive styles significantly impact the ability to perceive and act upon such opportunities. In the AI context, this could mean that entrepreneurs who are cognitively attuned to technological advancements are more likely to adopt AI in their business strategies. Therefore, when applied to AI adoption, the cognition literature suggests that an entrepreneur's attitudes towards AI could be informed by their cognition—which would be just as crucial as the benefits of adopting new technologies.

2.2 | Adoption of Artificial Intelligence

AI is a key technology that is driving operational transformation, with the potential to revolutionize the way organizations innovate, operate, compete, and deliver value to customers (Haefner et al. 2021; Vial 2019). Where information processing constraints hinder innovation (i.e., mainly in emerging economies due to scarcity of sophisticated skills), recent advancements in AI algorithms offer potential solutions to complex challenges in innovation management (Di Vaio et al. 2020). AI involves the use of algorithms and machine learning to enable machines to perform tasks that traditionally require human intelligence (Leonardi 2021). It is used in a wide range of applications, including image and speech recognition, natural language processing, robotics, and predictive analytics, and it increases productivity (Yang 2022; Lee et al. 2022). AI enables organizations to improve efficiency, automate processes, and generate insights that enhance competitive advantage (Cennamo et al. 2020). For example, AI-powered analytics can help organizations gain insights into customer behaviors, market trends, and business operations, enabling them to make data-driven decisions and innovate effectively (Felten et al. 2021; Rana et al. 2024). Evidence suggests that business organizations in developed countries continue to remain at the forefront of benefiting from AI tools.

Emerging economies are also in a unique position to benefit from the adoption of AI technologies. Some of them experience valuable resource scarcity—which makes them highly susceptible to inefficiencies (Mostafiz, Ahmed, et al. 2022). However, AI technologies have a role to play. Research shows that by integrating AI technologies, emerging economy entrepreneurial firms can improve productivity, reduce costs, and increase profitability (Kumar et al. 2019). For instance, in the healthcare system, AI adoption can help fill the gap by improving diagnostic accuracy, developing personalized treatments, managing patient data, and reducing healthcare costs by optimizing resource allocation and reducing errors (Mrazek and O'Neill 2020). In agriculture, AI can help improve crop yields, reduce water usage, and increase the efficiency of farming operations (Ganeshkumar et al. 2021). Adoption of AI and the

opportunities to improvise a firm's operations are limitless across industries; however, the journey toward this transformation is not without its hurdles as emerging economies also suffer from challenges, such as sophisticated connectivity and internet infrastructure (i.e., limited resources) (Hai et al. 2021; Peng et al. 2008). Therefore, these entrepreneurs in emerging economies who wish to leverage the opportunities of AI collaborate with potential actors where they operate and be able to creatively use available resources in novel and value-generating ways. On the one hand, firms need a functional ecosystem (Roundy and Im 2024) which allows them to accumulate valuable resources and knowledge; on the other hand, in order to circumvent systemic challenges, firms need to capitalize on the innovation potential of AI by repurposing existing resources, tapping into unorthodox avenues of resource acquisition, and maximizing the utility of resources at hand. In essence, entrepreneurs need a strategic approach that transforms limitations into a catalyst for innovation and competitive advantage (Mariani et al. 2023). This indicates that the decision to adopt AI does not occur in isolation but is influenced by the cognitive interplay between the entrepreneur, their environment, and strategies.

2.3 | Innovation Ecosystem and Resource Mobilization

The term "innovation ecosystem" can have different meanings depending on the context in which it is used. Adner (2006) and Carayannis and Campbell (2009) conceptualize the term in different ways, with Carayannis and Campbell associating it more with clusters and the relationship between universities and firms; Adner (2006) defines innovation ecosystem as "the collaborative arrangements through which firms combine their individual offerings into a coherent, customer-facing solution" (2). In recent years, there have been multiple efforts to define innovation ecosystems. However, there is some ambiguity between what should be considered a definition and what is simply a description. Despite this, it is noteworthy that many studies utilize the concept of innovation ecosystems without explicitly defining it. Table 1 highlights the most prominent conceptualization of the innovation ecosystem.

We adopted the definition of innovation ecosystems by Granstrand and Holgersson (2020). It captures seamless information flows to the organization from the ecosystem, covering new products/services, technological resources, and relevant knowledge, which eventually affects the adoption of new strategies (Silva and Grützmann 2022). Although there are conceptual variations in the definitions, there are common features that can be identified in innovation ecosystems, including a large group of interconnected and interdependent firms that co-evolve together. Innovation ecosystems also go beyond market positioning and industrial structure, exhibiting characteristics of symbiosis, platform, and co-evolution (Haukipuro et al. 2023). Nambisan and Baron (2013) suggest that innovation ecosystems involve dependencies among members, a common set of goals and objectives, and a shared set of knowledge and skills.

Ecosystem and resource mobilization are related (Shi and Shi 2022). An innovation ecosystem is a dynamic network of actors, artifacts, and institutions that interact to create and diffuse innovations and deliver digital transformation to the

TABLE 1 | Heterogeneous definitions of the innovation ecosystem.

Authors	Definition
Edquist (1997)	"All important economic, social, political, organizational, institutional, and other factors that influence the development, diffusion and use of innovations" (14)
Lundvall (1992)	"All parts and aspects of the economic structure and the institutional setup affecting learning as well as searching and exploring—the production system, the marketing system and the system of finance present themselves as subsystems in which learning takes place" (12)
Asheim and Gertler (2006)	"The institutional infrastructure supporting innovation within the production structure of a region" (299)
Breschi and Malerba (1997)	"That system (group) of firms active in developing and making a sector's products and in generating and utilizing a sector's technologies; such a system of firms is related in two different ways: through processes of interaction and cooperation in artifact-technology development and through processes of competition and selection in innovative and market activities" (131)
Granstrand (2000)	"The set of actors, activities, resources and institutions and the causal interrelations that are in some sense important for the innovative performance of a corporation or groups of collaborating companies and other actors (e.g., universities, institutes, agencies)" (13)
Granstrand and Holgersson (2020)	"An innovation ecosystem is the evolving set of actors, activities, and artifacts, and the institutions and relations, including complementary and substitute relations, that are important for the innovative performance of an actor or a population of actors" (3)

organization (Appio et al. 2021). Likewise, resource mobilization is the process of acquiring and allocating resources from the ecosystem, including knowledge of technologies, suppliers, customers, and competitors' resources to support innovation activities (Thornton et al. 2019). In an innovation ecosystem, resource mobilization could be a critical factor that enables the network of actors to access the necessary resources to innovate and compete (Iheanachor et al. 2023). Effective resource mobilization in an innovation ecosystem requires a shared vision and a collaborative approach among the actors in the ecosystem (Floetgen et al. 2021). However, an innovation ecosystem should also have appropriate governance structures, favorable policies, and practices to support resource mobilization and facilitate innovation activities (Walton and Nayak 2021). As entrepreneurs engage with the ecosystem, drawing upon its diverse pool of resources, their cognitive frameworks—comprising their understanding, attitudes, and intentions towards AI—could be enriched and expanded (Williams et al. 2024). This cognitive evolution can be instrumental in elevating their intention to adopt AI, as it aligns their strategic outlook with the practical insights and capabilities gleaned from the ecosystem. Hence, resource mobilization does not merely supply the raw materials for innovation; it could actively shape and inform the cognitive domain of entrepreneurs (Inceoglu et al. 2024), thus paving the way for a more strategic adoption of AI technologies.

However, the application of resource mobilization in entrepreneurial contexts, especially in digital and ICT ecosystems, has not been thoroughly explored in empirical research. While significant attention has been paid to resource mobilization in fields like nanotechnologies (Lo 2015) and health care (Agarwal et al. 2020), its utility for entrepreneurial firms in a digital context remains an area ripe for exploration. This gap presents an opportunity to apply and extend the principles of social cognitive theory (Bandura 1986, 2021) to understand how the interaction with and learning from an innovation ecosystem can amplify the cognitive processes of entrepreneurs (Calic et al. 2024). The theory provides a lucid framework to examine the mechanisms through which cognitive and strategic factors interact to explain entrepreneurial intentions (Bacq et al. 2017). SCT holds that the expectations, beliefs, and cognitive competencies of an individual are developed and modified by social, contextual, or environmental influences and that these influences operate as interacting determinants of one another (Bandura 1986; Lyons et al. 2020). Bandura (1989) proposes SCT's triadic reciprocal determinism, which involves personal attributes (i.e., internal cognitive and affective states), physical attributes (i.e., external environment) and overt behavioral choices. Therefore, entrepreneurial behavior is influenced by personal and environmental factors, which are constant and reciprocal (Chaston and Sadler-Smith 2012) and influence a firm's strategies that are formed and executed in response to new avenues (Baum et al. 2001). Entrepreneurs, through social engagement within their ecosystem, learn from observing peers and competitors who have successfully integrated AI, which in turn could shape their perceptions of its feasibility and value for their own firms (LaRose and Eastin 2004; Ratten and Ratten 2007). However, the adoption of any new technologies comes at a cost, especially in emerging economies where resource constraints are prevalent.

2.4 | Entrepreneurial Bricolage

Entrepreneurial bricolage is a concept that refers to the ability of entrepreneurs to create something new out of existing resources and materials, often creatively and innovatively, while resources are constrained (Guo et al. 2016). It involves using whatever is available to develop a solution to a problem and deliver new value (Baker and Nelson 2005). It can play a crucial role in helping businesses adapt to the changing landscape and embrace new technologies (Mateus and Sarkar 2024). Digital transformation involves the integration of AI into critical aspects of business operations, from customer service and marketing to supply chain management and production processes (Lévesque et al. 2022; Nambisan et al. 2017). This transformation is necessary for emerging economies firms to remain competitive in an increasingly digital world (Yu et al. 2024). However, it can be equally challenging for them to embrace digital transformation due to the cost and complexity involved. This is where entrepreneurial bricolage comes in (Garud and Karnøe 2003; Senyard et al. 2014).

Connecting this to SCT, entrepreneurs' cognitive processes, shaped by their interactions and observations within their ecosystem, can explain the bricolage practices. As they observe peers and competitors effectively utilizing limited or unconventional resources, their perception of what is feasible and valuable for their firms may shift. This aligns with the idea that entrepreneurial behavior is influenced by a combination of personal attributes and environmental factors, both of which are in a state of continuous interaction and reciprocal influence. Firms need to be creative, resourceful, and willing to take risks to achieve successful bricolage. They need to be able to identify the resources they have available and find ways to use them in innovative ways. This may involve experimenting with different technologies, testing new business models, and embracing new ways of working (Welter et al. 2016). Benefits, such as cost-effectiveness, are possible by leveraging existing resources (i.e., existing technologies and data) and materials to achieve the same results as larger, more established competitors but at a lower cost, which is eventually one of the purposes served by adopting AI (Menz et al. 2021). Still, the cost and complexity of implementing AI systems can be a barrier for many emerging economy firms (Kumar et al. 2019). By applying entrepreneurial bricolage principles, firms can find creative and cost-effective ways to integrate AI into their operations.

With the ecosystem, many firms already have large amounts of data stored in their systems. In a well-functional innovation ecosystem, these data can be shared between the actors of the ecosystem and used to train machine learning algorithms (Gupta et al. 2023). Another possibility is existing AI platforms and tools, which many companies offer to be easily integrated into systems, such as chatbots or predictive analytics tools (Obschonka and Audretsch 2020). By leveraging these existing resources, firms can quickly and cost-effectively learn and implement AI solutions without needing to develop their own algorithms or invest in expensive hardware. SCT supports this argument-based continuous learning, which leads firms to act creatively about how to use existing resources and tools to meet specific needs. Entrepreneurs observing their peers employing

bricolage to successfully implement AI may undergo a shift in their cognitive perspective, perceiving AI adoption as a more attainable goal even with limited resources. This observation alters their understanding of what is possible and influences entrepreneur's beliefs about the feasibility and efficiency of AI technologies. AI technology requires specialized skills and knowledge, which can be challenging to find and expensive to acquire (Shepherd and Majchrzak 2022). However, as entrepreneurs experiment with and successfully leverage existing tools and resources to facilitate AI integration, their belief in their ability to implement AI effectively, despite resource limitations, grows stronger. This enhanced self-efficacy, fostered through practical experience and creative problem-solving, is likely to increase their intention to adopt AI. Yet, despite AI's apparent potential, the empirical exploration of entrepreneurial bricolage (Glasbeek 2024) within AI adoption remains scant, signaling an avenue for research that could yield insights into cost-effective digitalization strategies for firms in resource-limited settings.

3 | Hypotheses Development

The overarching logic underpinning our theorizing is portrayed in Figure 1.

Entrepreneurial cognition plays a critical role in shaping how entrepreneurs process information, evaluate opportunities, and make decisions in dynamic business environments. It encompasses the mental processes by which entrepreneurs interpret their surroundings, identify market opportunities, and develop strategies for organizational growth (George et al. 2016; Thomas et al. 2020). SCT focuses on the impact of motivation and cognition on individual behavior (Wood and Bandura 1989). Within this framework, entrepreneurial decisions, such as the adoption of AI technologies, are determined by the entrepreneur's cognitive assessment of the appropriateness, usefulness, and strategic alignment of AI within their organization (Liñán and Chen 2009; Mitchell et al. 2002).

Entrepreneurial cognition is dissected into two key dimensions: (a) need for cognition and (b) faith in intuition. Entrepreneurs high in the *need for cognition* exhibit a preference for deep, analytical thinking and actively seek out complex problems that challenge their intellectual abilities (Roundy and Im 2024). This cognitive trait may enable them to perform comprehensive evaluations of AI's potential, considering its ability to generate actionable market intelligence, support decision-making, and enhance various business processes (Loebbecke and Picot 2015). Such entrepreneurs are more likely to engage with AI technologies in-depth, analyzing their role in automating repetitive tasks, enabling data-driven insights, and driving business model innovation (Agrawal et al. 2018). For instance, they may assess AI's ability to expedite data collection, sense market trends, and address customer needs through tailored solutions.

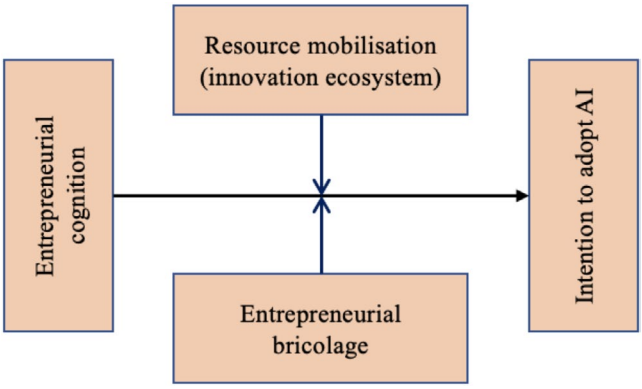

FIGURE 1 | Conceptual model. [Colour figure can be viewed at wileyonlinelibrary.com]

Complementing this is *faith in intuition*, which represents the tendency to trust gut feelings and initial impressions. Entrepreneurs with strong intuitive capabilities rely on their instincts to make quick decisions, particularly in uncertain or time-sensitive situations. In the context of AI adoption, such entrepreneurs may use their intuition to assess AI's immediate applicability and potential to address organizational challenges. For example, they might quickly evaluate AI's ability to enhance customer service through chatbots (Kumar et al. 2024) or optimize operational processes such as supply chain management and inventory control (Wamba et al. 2023). Intuition provides an additional layer of decision-making, complementing analytical evaluations, particularly when full information is unavailable or rapid action is required (Chaston and Sadler-Smith 2012).

Entrepreneurs assess AI's perceived usefulness in performing complex business tasks, its ability to improve operational efficiencies, and its alignment with customer-centric strategies. However, an individual's cognitive processes do not occur in isolation; they are shaped by environmental influences such as technological advancements, competitive pressures, and evolving market needs. SCT highlights the interaction of these personal, behavioral, and environmental factors, suggesting that entrepreneurial cognition is both a product of and a contributor to decision-making. AI adoption presents unique challenges that demand careful cognitive deliberation. Entrepreneurs must weigh the potential benefits of generative AI, such as ChatGPT's ability to revolutionize customer engagement and automate processes, against challenges such as integration costs and technological complexities (Wamba et al. 2023; Dahlke et al. 2024). By critically evaluating AI's role in enhancing operational and strategic capabilities, entrepreneurs can make informed decisions about its adoption and implementation. This cognitive evaluation process, shaped by an entrepreneur's need for cognition and faith in intuition, therefore becomes a pivotal determinant of AI adoption intention. Based on the above argument, we propose the following hypothesis:

H1. *Entrepreneurial cognition positively influences the intention to adopt AI.*

Resource mobilization refers to the practice of accessing and activating resources embedded within the ecosystem, including its external partners and actors such as suppliers, customers, and research collaborators (Jack 2005; Thornton et al. 2015). These networks provide a critical source of resources and competitive advantage (Gulati 2007; Sammarra and Biggiero 2008). However, the capability of firms to mobilize resources varies significantly, influenced by the nature and strength of their

network ties (Zaheer and Bell 2005). A strong network, characterized by reciprocal understanding and frequent interactions, enables firms to exploit existing resources effectively (Wu 2008), while moderate-network resource mobilization, offering access to nonredundant resources and novel information, facilitates exploration and innovation (Burt 1992, 2000). Hence, a complementary mix of strong and weak resource mobilization enhances organizational resourcefulness by balancing exploitation and exploration (Michelfelder and Kratzer 2013).

The extent of resource mobilization reflects the effort firms expend to activate their networks and realize the benefits of these relationships. A high level of resource mobilization involves intensive activities to access and utilize resources, leveraging both strong networks for reliability and trust (e.g., matching supplier capacity to customer demand) and moderate networks for diversity and novel opportunities (e.g., initiating relationships with new partners in unfamiliar markets). This dynamic interplay enables firms to adapt to environmental uncertainty and navigate resource limitations (Eisingerich et al. 2010). In the context of tech, firms aiming to adopt AI technologies must rely on effective resource mobilization to overcome inherent challenges, such as the need for specialized skills, high costs, and technical complexities (Audretsch and Belitski 2024). Strong network resource mobilization will also allow entrepreneurs to engage with well-established partners, such as suppliers and customers, to ensure the alignment of AI solutions with operational needs and market demands (e.g., communicating customer-focused approaches to suppliers). Moderate-network resource mobilization, on the other hand, facilitates the acquisition of unique insights and access to novel resources, such as gaining local market knowledge or interacting with indirect customers to stimulate demand. Together, the purpose is to acquire the resources and information necessary for AI integration.

SCT posits that behavioral intentions, including the intention to adopt AI, result from the interaction between cognitive and environmental factors (Stajkovic and Luthans 1998). Entrepreneurs' cognitive capabilities, such as their need for cognition and faith in intuition, determine how they perceive and evaluate AI's potential. However, the environmental context, particularly the ability to mobilize resources from the innovation ecosystem, could play a critical role in shaping these cognitive evaluations. Entrepreneurs with high levels of resource mobilization from the innovation ecosystem are better positioned to leverage their networks to secure the resources, skills, and support needed to realize AI's potential benefits. Conversely, low levels of resource mobilization may limit an entrepreneur's ability to act on their cognitive evaluations and may hinder AI adoption.

We argue that the extent of resource mobilization moderates the relationship between entrepreneurial cognition and AI adoption. When resource mobilization from the innovation ecosystem is high, entrepreneurs can more effectively translate their cognitive evaluations of AI into actionable strategies. For example, strong networks can provide the operational support necessary for AI implementation, while moderate networks can offer novel insights to tailor AI solutions to emerging opportunities. This dynamic interaction amplifies the positive impact of entrepreneurial cognition on AI adoption, creating a synergistic effect. Based on this argument, we conjecture that:

H2. *Resource mobilization from the innovation ecosystem positively moderates the relationship between entrepreneurial cognition and intention to adopt AI.*

By theorizing entrepreneurial bricolage as "making do by applying combinations of the resources at hand to new problems and opportunities," Baker and Nelson (2005) offered an essential beginning point for comprehending how some entrepreneurs develop and nurture firms despite seemingly insufficient resources. Entrepreneurial bricolage actively and creatively assists firms in overcoming resource limitations by responding to environmental changes (Baker and Nelson 2005; Senyard et al. 2014). It is a strategic orientation that may contribute to continuous growth and buffering environmental turbulence by reconfiguring existing resources (Paust et al. 2024).

Firms deploying entrepreneurial bricolage have to constantly scan and monitor the environment and reconfigure resources to respond to those changes (Vakratsas and Ma 2009), which enhances the firm's adaptive capability. Entrepreneurial bricolage generates a bias toward action and active engagement with opportunities (Baker and Nelson 2005). It accordingly drives firms to actively search for external changes. Salunke et al. (2013) prove that entrepreneurial bricolage facilitates the development of service entrepreneurship by interacting and learning from different actors. The constant interaction with related linkage helps firms collect comprehensive information about demanding changes. Baker and Nelson (2005) observed that firms could use entrepreneurial bricolage to form a close relationship with customers and suppliers. Thus, entrepreneurial bricolage often contributes to firms capturing external changes.

Lyons et al. (2020) examined other aspects of social cognitive theory and embraced contextual factors that interrelate with cognition, intentions, and associated actions. In the context of our study, bricolage is a contextual factor that interacts with the cognitive aspect in deciphering the intent of AI adoption. Based on SCT, we posit that the extent of entrepreneurial bricolage, that is, using available resources and recombining these resources for new purposes, and the interaction between entrepreneurial bricolage and entrepreneurial cognition helps to elucidate the variance in AI adoption in ICT firms. As such, the positive effect of entrepreneurial cognition on AI adoption is greatest when the extent of entrepreneurial bricolage is high. Thus, we propose the following hypothesis:

H3. *Entrepreneurial bricolage positively moderates the relationship between entrepreneurial cognition and intention to adopt AI.*

4 | Research Methods

4.1 | Research Context

An innovation ecosystem in an emerging economy can emerge due to significant unmet needs, which can create opportunities for entrepreneurs and innovators to develop new solutions (Robertson et al. 2023). These needs can be related to intangible infrastructure, such as ICT, software solutions to health care, a digitalization-based education system, and other areas where

there is a necessity for significant innovation. In addition, governments in emerging economies increasingly recognize the importance of innovation for economic growth and are implementing policies and programs to support the development of innovation ecosystems (Oh et al. 2016; Pustovrh et al. 2020). These policies can include tax incentives, grants, and other financial support for start-ups and innovative companies. Over the past two decades, the Bangladeshi Government has heavily invested in building the innovation ecosystem, mainly in the ICT industry, which has grown significantly, including more than 4500 software and IT companies, employing more than 300,000 professionals. Additionally, over 40 companies have established joint ventures with foreign companies in Bangladesh and abroad. To further develop the industry, the Bangladeshi Government has allocated USD 215 million for the ICT industry's development in the 2020–2021 fiscal year and has proposed 65 action plans for the next 10 years for the industry's growth (BASIS 2021). These firms offer services to businesses in telecommunications, banking, finance, and pharmaceutical sectors, primarily in East Asia, Japan, and the Middle East (BASIS 2022b). The Government's initiatives include supporting start-ups, investing in infrastructure to establish an innovation ecosystem, promoting industry–university collaboration, creating employment opportunities, and creating highly skilled IT graduates (BASIS 2022b). Therefore, the rise of digital technologies (i.e., AI-based) has made it easier for entrepreneurs and innovators to connect with each other, access information, and collaborate on new projects, contributing to the emergence of an innovation ecosystem. This has led to the development of online communities and platforms that facilitate innovation and entrepreneurship.

The ICT industry is an essential part of Bangladesh's transition from a low income to a middle-income economy by encouraging entrepreneurship (Amin and Rahman 2019). It is also an attractive destination for foreign firms to offshore ICT services (van Gorp et al. 2015), enabling this industry to welcome entrepreneurial venturing (Rashid and Rashid 2020). This may happen because of a solid innovative ecosystem that enables firms to build resilience during the crisis (Leite and Hodgkinson 2021; Shore et al. 2024). As evidenced, AI adoption among firms in the ICT industry of Bangladesh can automate and optimize various business processes, such as healthcare, auditing, and financial services, leading to increased efficiency and productivity (Afroze and Aulad 2020; Miskat et al. 2023). Over time, these innovative entrepreneurial firms can develop long-term fortitude and adoptive cognition; therefore, enabling them to withstand the competition and respond competitively.

4.2 | Data Collection and Sample

The sample firms were selected from the Bangladesh Association of Software & Information Services database (BASIS 2022a). The BASIS has 2219 registered firms (BASIS 2022a). For this study, a two-stage survey method was chosen by following Ahsan et al. (2022). In the first round, a questionnaire was sent to all registered firms to collect information about entrepreneurial cognition, ecosystem resource mobilization, and entrepreneurial bricolage from the entrepreneur/CEO/founder of the organization using Qualtrics. A total of 241 firms have responded, resulting in a response rate of 10.9%. In the second round, conducted 1 month later, these 241 firms were contacted to collect data on the intention to adopt AI from IT managers/IT directors. A total of 236 firms responded to the second call.

This survey method helps to address potential biases, such as ex-ante effects and social desirability bias. A time-lagged method was used to minimize ex-ante effects, as suggested in cross-sectional studies (Guide and Ketokivi 2015; Reed 2015). Collecting data from different respondents in the second round helped to control social desirability bias (Zahra and Covin 1995) and common method bias also (Chang et al. 2010). Finally, a nonresponse analysis was conducted by performing an independent *t*-test (Diamantopoulos et al. 1994), which found no significant differences in the means of critical variables, indicating a lack of nonresponse biases in this research.

4.3 | Measurement

All constructs and the items are presented in Appendix 1. AI adoption intention construct was sourced from Upadhyay et al. (2022) and Upadhyay et al. (2023) and operationalized using three items on a seven-point Likert scale. Sample items are: our firm will adopt AI for all major digital requirements, and I think that our firm will adopt AI soon to enhance digital processes. The entrepreneurial cognition construct is sourced from Chaston and Sadler-Smith (2012) and operationalized through two subdimensions: the *need for cognition* (five items) and *faith in intuition* (five items) on a seven-point Likert scale. Sample items for the need for cognition are: I prefer to do something that challenges my thinking abilities rather than something that requires little thought, and I prefer complex to simple problems; sample items for faith in intuition are: I trust my initial feelings about my stakeholders, and my initial impressions of stakeholders are almost always right.

The resource mobilization from the innovation ecosystem construct is operationalized with eight items and measured on a seven-point Likert scale sourced from Thornton et al. (2015, 2019). Sample items of ecosystem resource mobilization are: Our suppliers' ability is critical for us to satisfy our customers, and having good relationships with both suppliers and customers has enabled us to adapt to changes in the marketplace, "we interact with the customers of our customers, and we initiate relationships with new business partners to gain local knowledge in a new market." Finally, the entrepreneurial bricolage construct is measured by eight items sourced from Guo et al. (2016) on a seven-point Likert scale. Sample items are: We use any existing resource that seems useful in responding to a new problem or opportunity, and by combining our existing resources, we take on a surprising variety of new challenges. All constructs and items adopted in this research are previously validated constructs.

We included four control variables: firm age, size, environmental dynamism, and munificence, in the research model. Natural logarithms of firm size and age were operationalized based on the "number of employees" and "years of operation," respectively (Cruz-González et al. 2014). Five items were used to operationalize environmental dynamism, sourced from Kreiser et al. (2013) on a seven-point Likert scale. The munificence construct (three items) was also sourced from Kreiser et al. (2013) and operationalized on a seven-point Likert scale ranging from 1 = highly disagree and

5 = highly agree. Sample items are the current profitability of the industry, projected profitability (3 years or more) of the industry and projected long-term market growth rate (3 years and more).

5 | Analyses and Results

5.1 | Descriptive Statistics, Reliability, and Validity

Table 2 represents the results of correlations, normality, reliability, and validity. The findings show that data are normally distributed as the constructs' skewness and kurtosis values are between +2 and −2 (Shapiro and Wilk 1965). The variance inflation factor values are lower than 5, confirming low multicollinearity between constructs (Graham 2003). The Cronbach alpha and composite reliability values are higher than 0.7 for all constructs, ensuring the constructs' internal consistency (Hair et al. 2010). The average variance extractor values are higher than 0.50, confirming the convergent validity (Cable and DeRue 2002). The square roots of the AVEs (diagonal values in Table 2) are higher than the corresponding correlations, and the AVE values exceed the MSV (maximum shared variance) values, confirming the discriminant validity of the constructs (Fornell and Larcker 1981). The sample firms ranged from four to 8 years old and employed 21 to 190 people.

TABLE 2 | Correlation, normality, reliability, and validity.

Constructs				
Entrepreneurial cognition	0.722			
Resource mobilization (innovation ecosystem)	0.249**	0.727		
Entrepreneurial bricolage	0.171*	0.168*	0.722	
Intention to adopt AI	0.222**	0.218**	0.281**	0.727
Control variables				
Firm size	0.461	0.483	0.267	0.201
Firm age	0.297	0.337	0.203	0.226
Environmental dynamism	0.321	0.255	0.195	0.245
Munificence	0.346	0.285	0.188	0.297
Mean score	51.58	62.85	48.736	19.88
Standard deviation	3.077	3.457	2.638	1.058
Skewness	0.505	0.165	0.579	0.502
Kurtosis	0.951	0.494	0.392	0.656
VIF	1.49	1.97	1.34	1.55
Reliability and validity				
Cronbach alpha	0.255	0.834	0.756	0.492
Composite reliability	0.162	0.093	0.787	0.480
AVE	0.522	0.529	0.521	0.528
MSV	0.268	0.191	0.256	0.239

**Coefficient is significant at $p < 0.01$.
*Coefficient is significant at $p < 0.05$.
Note: Diagonal values are the square root of AVE.

5.2 | Common Method Bias

Several methods have been considered to control the bias of common method variances. First, we collected data at two different time points and controlled for simultaneity bias effects by following (Chang et al. 2010). Second, we included redundant questions in the survey that were not used in this study, and we also removed any potential obstacles that could have influenced how the participants answered (Fuller et al. 2016). Finally, we conducted two statistical analyses to check for the possible presence of CMV. The first was Harman's single-factor analysis, which revealed that the first component accounted for only 16.51% of the variance. The second was a single latent factor analysis. The results of this model ($\chi^2 = 3856.564$, df = 499, CMIN/df = 7.728, RMSEA = 0.194, CFI = 0.463) are significantly different from those of the five-factor confirmatory factor model ($\chi^2 = 907.671$, df = 491, CMIN/df = 1.84, RMSEA = 0.049, CFI = 0.902). Therefore, we conclude that any effects of CMV are minimal (Podsakoff et al. 2003).

5.3 | Hypotheses Testing

We performed confirmatory factor analysis to test the model fit indices before testing the hypotheses through structural equation modeling on AMOS 24. Table 3 represents the results. The findings show that in all three models, the model fit indices for measurement models are adequate and acceptable (Anderson and Gerbing 1988). The model fit indices for the first structural model are: $\chi^2 = 911.469$, df = 649, CMIN/df = 1.404, RMSEA = 0.049, GFI = 0.902, SRMR = 0.033. The results of the path analysis show that the effect of entrepreneurial cognition on intention to adopt AI is positively significant ($\beta = 0.159$**, $p = 0.006$). Hence, H1 is supported. In the second model, we test the moderating effects of ecosystem resource mobilization between entrepreneurial cognition and intention to adopt AI. The results show positive significant moderating effects of resource mobilization ($\beta = 0.048$***, $p = 0.001$). Hence, H2 is supported. In the third model, we test the moderating effects of entrepreneurial bricolage between entrepreneurial cognition and intention to adopt AI. The results show significant moderating effects of entrepreneurial bricolage ($\beta = 0.017$**, $p = 0.042$). Hence, H3 is supported. The results of the control variable show that firm age significantly affects the intention to adopt AI. However, firm size has a nonsignificant impact on the intention to adopt AI. The results also revealed that environmental dynamism and munificence have nonsignificant effects on the intention to adopt AI.

5.4 | Endogeneity and Robustness Analysis

We performed two stringent analyses to check the presence of endogeneity in this research (Li et al. 2021). First, we analyzed the missing variable endogeneity by including human capital in

TABLE 3 | Results of path relationships.

Path relationships	Model 1 (Intention to adopt AI)		Model 2 (Intention to adopt AI)		Model 3 (Intention to adopt AI)	
	Coefficient	***p***	**Coefficient**	***p***	**Coefficient**	***p***
Entrepreneurial cognition	0.159**	0.006	0.136**	0.004	0.163**	0.027
Resource mobilization (innovation ecosystem)			0.352***	0.001		
Entrepreneurial cognition * resource mobilization			0.048***	0.001		
Entrepreneurial bricolage					0.109**	0.018
Entrepreneurial cognition * entrepreneurial bricolage					0.017**	0.042
Model fit indices	Measurement model	Structural model	Measurement model	Structural model	Measurement model	Structural model
χ^2	927.285	911.469	958.126	971.463	951.151	987.218
Df	637	649	652	659	651	662
χ^2/df	1.455	1.404	1.469	1.474	1.461	1.491
GFI	0.902	0.916	0.901	0.902	0.908	0.915
IFI	0.908	0.922	0.909	0.911	0.909	0.905
TLI	0.904	0.916	0.904	0.907	0.916	0.902
RMSEA	0.049	0.048	0.049	0.049	0.048	0.049
SRMR	0.033	0.034	0.039	0.036	0.038	0.034

**Coefficient is significant at $p < 0.05$.
***Coefficient is significant at $p = 0.001$.

the model. Table 4 represents the results of the missing variable endogeneity analysis. The results show that after incorporating another variable in the model, the results have not changed for the hypothesized relationships. Second, we performed Heckman's second-stage test to examine self-selection bias (Zaefarian et al. 2017). Table 5 represents the results, and we identified that the original results stand and present minimum deviation compared to the actual results. Hence, we conclude that endogeneity is not a challenge in this research. Finally, to investigate the robustness of the findings, we performed multiple regression analyses, incorporating the control variables. The results of hypothesized relationships in the multiple regression analyses have not shown any significant deviation from the primary research model.

6 | Discussion and Contributions

Anchored in the SCT, we developed a model that seeks to understand the interplay between entrepreneurial cognition and the intention to adopt AI. Moreover, we borrow insights from the contingency perspective to examine the boundary conditions of resource mobilization and entrepreneurial bricolage. Our results show a positive relationship between entrepreneurial cognition and intention to adopt AI. This finding corroborates with an emerging body of knowledge suggesting the positive interplay between an individual's cognitive factors and the adoption of digital technologies (e.g., Upadhyay et al. 2022). Our findings advance the work of Bettiga and Lamberti (2017) by holding that cognitive and affective factors lead to the development of desire, which is the direct antecedent of intention to adopt a particular technology. In this process, we argue that the positive interplay between entrepreneurial cognition and the intention of AI adoption would be bolstered through resource mobilization from the innovation ecosystem. We also advance the knowledge on resource mobilization (Ritter et al. 2021) that in high-technology industries in emerging economies, firms benefit from the mobilization of resources from different actors in an innovation

TABLE 4 | Missing variable endogeneity analysis.

Explaining variables	Explained variable: intention to adopt AI			
	M1	M2	M3	M4
Firm age	0.014	0.035	0.069	0.061
Firm size	0.062	0.050	0.088	0.083
Environmental dynamism	0.049	0.080	0.042	0.041
Munificence	0.093	0.036	0.036	0.042
Human capital	0.088	0.008	0.009	0.006
Entrepreneurial cognition		0.107**	0.119**	0.121**
Entrepreneurial cognition * resource mobilization (innovation ecosystem)			0.048***	
Entrepreneurial cognition * entrepreneurial bricolage				0.031**
R^2	0.227	0.111	0.131	0.126
Adjusted R^2	0.056	0.033	0.035	0.039
$\triangle R^2$		0.012	0.019	0.016
F-value	0.208	1.641**	1.393**	1.326**

**Coefficient is significant at $p < 0.05$.
***Coefficient is significant at $p < 0.01$.

TABLE 5 | Heckman second-stage endogeneity test.

Explaining variables	Explained variable: intention to adopt AI			
	M1	M2	M3	M4
Firm age	0.018	0.006	0.008	0.003
Firm size	0.012	0.002	0.022	0.021
Environmental dynamism	0.017	0.003	0.018	0.016
Munificence	0.016	0.041	0.024	0.015
Inverse mills ratio	0.077	0.111	0.139	0.122
Entrepreneurial cognition		0.131**	0.139**	0.128**
Entrepreneurial cognition * resource mobilization (innovation ecosystem)			0.049***	
Entrepreneurial cognition * entrepreneurial bricolage				0.029**
Wald χ^2	0.376	21.768**	28.426***	27.579***
Prob $> \chi^2$	0.421	0.022	0.001	0.003

**Coefficient is significant at $p < 0.05$.
***Coefficient is significant at $p < 0.01$.

ecosystem. These actors range from government agencies providing policy support and financial incentives to institutions conducting cutting-edge research to venture capitalists offering funding and business expertise—forming an ecosystem that fuels innovation. Finally, as these ICT firms are operating in an emerging economy, we argue for a boundary condition of entrepreneurial bricolage between entrepreneurial cognition and AI adoption—proving a positive moderating effect of entrepreneurial bricolage. As emerging economies are characterized by significant challenges in doing business, bricolage comes into play by enabling entrepreneurs to navigate these constraints through creative problem-solving and the repurposing of readily available resources. It plays as the cognitive agility of entrepreneurs—their ability to see beyond conventional uses of resources for value creation.

In examining the interplay between entrepreneurial cognition and the intention to adopt AI, our study offers three important contributions to an intersection of entrepreneurship and digitalization literature. First, although the cognitive approach is thought to have robust explanatory power in predicting the behavior of entrepreneurs and their perception (see, for example, Bacq et al. 2017; Dheer and Lenartowicz 2019; Sancho et al. 2020), scholars remain unenthusiastic about studying the relationship between entrepreneurial cognition and the adoption of technologies. This study begins to shed light on a missing but essential facet of "contemporary" entrepreneurship (Bullough and Renko 2013) and digitalization literature by evidencing entrepreneurs' cognition as the precursor of their intention to AI adoption. In particular, we argue and show that the intention to implement AI is driven by the mental model/cognition of entrepreneurs. Our finding establishes that thinking opportunistically (in our case, to adopt AI) requires cognition-based models (Krueger 2003), thereby evidencing the relevance of cognition-based models such as SCT to the emerging field of AI in entrepreneurship. Although AI and data science have found their way into entrepreneurship, research at the intersection of both fields remains limited (Liebregts et al. 2020). We advance this stream of literature by integrating insights from the entrepreneurship and IT literature to evaluate the explanatory power of entrepreneurial cognition in predicting their intent to adopt AI. In particular, our study significantly contributes to an emerging body of literature by offering a more holistic and nuanced understanding of the factors influencing entrepreneurs' intention to adopt AI in their organizations.

Second, our study extends SCT's application to entrepreneurs' intention to adopt technology, demonstrating how cognitive or mental models (cognitive processes as described by SCT)

influence entrepreneurs' intention to adopt AI. Our findings align with SCT's reasoning that human thoughts and beliefs (in our case, confidence in understanding advanced technologies like AI) shape their behavior and actions. In particular, we advance SCT into contemporary entrepreneurship research by enriching the theoretical perspective on the role of cognition in entrepreneurs' intention to adopt AI. Furthermore, in line with the SCT's logic of a dynamic interaction between personal, behavioral, and environmental factors to predict intention (Bandura 1986), we have shown how external factors, such as resources deriving from the innovation ecosystem and the creative use of limited resources (bricolage) strengthen our model relationships. These findings affirm the fundamental percept of SCT that an individual's behavioral intention is the function of his/her cognitive and environmental factors (Bandura 1986). In SCT, "intentions are perceived as a by-product of person-environment interactions and a predictor of person-environment factors" (Bandura 1986; cited in Garcia et al. 2019, 227). In particular, SCT views the behavioral intention of individuals as the product of reciprocal interactions between their cognitive and environmental factors.

We applied this logic in developing our conceptual model, viz., we first examined and established a positive association between the cognition of entrepreneurs and their intentions to adopt AI. We then checked whether the relationship between entrepreneurs' cognition and their intention to adopt AI is bolstered by two environmental factors: resources at hand and resources deriving from the innovation ecosystem. In so doing, on the one hand, our study evident the reinforcing effects of these environmental variables. On the other hand, by exploring the implications of cognition and contextual factors' interactions, we respond to a research call by Keh et al. (2002). They stress the importance of undertaking research on how cognitive and contextual factors interact with each other to understand how entrepreneurs evaluate emerging opportunities in risky market conditions. Our findings prove the necessity of entrepreneurial cognition in this process. We, therefore, conclude that (empirically) "cognitive approaches to technology adoption share the idea that the intention to adopt a technology is the result of a rational processing of different information about the technology and the context of use by the user" (Bettiga and Lamberti 2017, 180).

Third, we contribute to the literature by revealing the contingency effects of resource mobilization and entrepreneurial bricolage. Our findings show the necessity of mobilization of resources stemming from the innovation ecosystem and entrepreneurial bricolage to strengthen the association between entrepreneurial cognition and AI adoption. These findings substantiate the importance of concurrently examining resource mobilization and bricolage as they reinforce the association between entrepreneurial cognition and intention to adopt AI. Another related contribution is that we tested the boundary conditions of resource mobilization and bricolage without eliminating one from our model. Although the literature around resource mobilization and bricolage is abundant, most studies were undertaken to understand their effects in isolation. This is problematic for two reasons: (i) it offers a partial insight into the effectiveness of each behavior, and (ii) it alone cannot solve IT firms' conundrums in resource-constrained contexts like ours. Therefore, we infer that since the phenomenon of entrepreneurship implies a dynamic interplay between opportunities and resources, it cannot be understood without due attention to resource mobilization and entrepreneurial bricolage separately. Our research provides theoretical treatment of how (i.e., resources sourced from the innovation ecosystem) and under what condition (i.e., the strength of entrepreneurial bricolage) emerging economy entrepreneurial firms can amplify the cognitive readiness to adopt AI. The presence of the firm within the innovation ecosystem and interconnected knowledge resources ensures that the benefits of AI are shared more widely within the ecosystem. The bricolage connects cognition to AI as a cognitive agility to ensure creativity and resourcefulness.

6.1 | Managerial Implication

This study has important implications for entrepreneurs, managers, and policymakers. Adopting AI is critical for entrepreneurial ICT firms to remain competitive and achieve sustainable growth. However, the decision to adopt AI is not only based on the availability of technological resources but also on the cognitive abilities of entrepreneurs. The knowledge gained from our findings can help entrepreneurs and managers develop effective strategies for encouraging the widespread adoption of AI technology in various business settings in general and ICT firms in particular.

Due to the nature of ICT firms in Bangladesh and globally (i.e., pioneers in adopting new technologies), these entrepreneurs who possess rich faith in intuition and a need for cognition are more likely to adopt AI. Therefore, through strong cognition, entrepreneurs must motivate the top management team and build a culture of adopting AI for several reasons. In Bangladesh, the adaptability of AI-based solutions can be incorporated into the ICT healthcare system, enabling healthcare professionals to make more informed decisions aided by AI-based predictive analyses (Rahman et al. 2022). Sharing the best practices of AI adoption in the innovation ecosystem may enable ICT firms to access required resources, facilitate collaboration and networking, support access to markets, and provide policy and regulatory support.

Our study also emphasizes the role of entrepreneurial bricolage in enhancing the relationship between cognition and intention to adopt AI. Entrepreneurs and managers should encourage entrepreneurial bricolage by creating a work environment that encourages the resourcefulness and creativity of the employees. ICT firms in Bangladesh can achieve this by promoting a culture of experimentation, rewarding employees who come up with innovative ideas, and providing a supportive work environment that allows employees to take calculative risks. Entrepreneurs should consider these factors when developing strategies for AI adoption. For example, if an ICT firm operates in an innovation ecosystem that provides limited resources, the managers should focus on enhancing entrepreneurial bricolage among their employees. On the other hand, if a similar firm operates in an innovation ecosystem that provides abundant resources, the managers should focus on building and maintaining solid relationships with external stakeholders. Especially for technopreneurs planning to establish new ventures, the choice of location becomes especially important, as our findings evidence that

knowledge flows and resources accessed from the innovation ecosystem significantly amplify the mindset of entrepreneurs towards AI adoption. Hence, selecting a location that provides access to a vibrant, resource-rich innovation ecosystem can substantially strengthen a new firm's competitive position and accelerate its journey toward digital transformation.

Policymakers play a pivotal role in promoting AI adoption, particularly in emerging economies like Bangladesh. Historically, advanced economies have reaped benefits from technological advancement due to their established competitive advantages and resource availability (Upadhyay et al. 2022). Global tech giants such as Microsoft, Alphabet, and Meta have significantly democratized AI technologies, making them accessible worldwide. However, to capitalize on this opportunity, policymakers from emerging economies should actively foster an enabling environment where entrepreneurs can maximize the benefits of digitalization. Initiatives could include dedicated funding for AI-related research and development, targeted tax incentives for ICT firms investing in AI solutions, and robust support for entrepreneurship and innovation ecosystems. For instance, initiatives such as the Bangladesh Investment Summit scheduled for April 07–10, 2025 (BIDA 2025), provide unique opportunities to attract international investment and technological expertise. Policymakers in the emerging economies part of the world should prioritize inviting prominent AI leaders such as OpenAI, Google, xAI, and other AI frontrunners to these types of events, creating valuable avenues for collaboration for technopreneurs, technology transfer, and knowledge exchange between firms. These strategic partnerships could substantially accelerate AI adoption, enhance digital capabilities, and foster rapid growth through innovation-driven entrepreneurship.

7 | Limitation and Future Research

While our study provides valuable contributions, it is not without its limitations that pave the way for future research opportunities. First, our outcome variable is the intention to adopt AI. However, intention may not result in actual behavior. Our rationale for not examining the actual behavior, that is, AI adoption, is driven by the fact that researchers are at the very early stage of understanding the utility of AI in the entrepreneurship field (Liebregts et al. 2020) and from an emerging economy perspective. Although entrepreneurs' intentions and perceptions about emerging opportunities are essential, it does not necessarily mean that all opportunities are being or will be exploited. Future research should, therefore, delve deeper into the actual adoption and practical implementation of AI technologies, moving beyond intention to examine real-world applications and outcomes of using AI. Second, the scope of our study is confined to the ICT sector in Bangladesh, which may limit the generalizability of our findings. Different industries and countries, with their unique challenges and opportunities, could yield different insights into the process of AI adoption. Future studies could expand this research by exploring a broader range of industries and geographic locations, enhancing the applicability and relevance of the findings across different contexts. Finally, the reliance on self-reported data introduces the potential for response biases, and the cross-sectional design of the study from one emerging economy restricts our ability to make broader generalizations. Longitudinal research designs in future studies could mitigate these issues, offering a more dynamic view of how AI adoption evolves over time and how intentions translate into actions. By addressing these limitations, future research can build upon our findings, with the aim of offering a more comprehensive and nuanced understanding of AI usage in the entrepreneurial literature in different economies.

Acknowledgments

For the purpose of open access, the author has applied a Creative Commons Attribution (CC BY) license to any Author Accepted Manuscript version arising from this submission.

Ethics Statement

The study has collected data from human participant through "online questionnaire survey" following all the Ethical Guidelines by Sheffield Hallam University, UK.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data used in this study are securely deposited at the Sheffield Hallam University repository and only accessible by Dr. Md Imtiaz Mostafiz (lead researcher). According to Sheffield Hallam University data policy, it will only be made available after 3 years from the research publication.

Endnotes

[1] AI is defined as the mechanism performed by machines that digitalization and algorithms can perform tasks and solve complex business problems that go beyond or surpass the human intelligence, reasoning, and predictive capability necessary for navigating business dynamics and propose solutions (Chalmers et al. 2021; Giuggioli and Pellegrini 2022).

[2] Resource mobilization is a process by which firms access and activate resources embedded in the ecosystem (Jack 2005; Thornton et al. 2015).

[3] Entrepreneurial bricolage refers to the ability of entrepreneurs to create something new out of existing resources, creatively and innovatively (Guo et al. 2016).

References

Adner, R. 2006. "Match Your Innovation Strategy to Your Innovation Ecosystem." *Harvard Business Review* 84, no. 4: 98–110.

Afroze, D., and A. Aulad. 2020. "Perception of Professional Accountants About the Application of Artificial Intelligence (AI) in Auditing Industry of Bangladesh." *Journal of Social Economics Research* 7, no. 2: 51–61.

Agarwal, N., R. Chakrabarti, J. C. Prabhu, and A. Brem. 2020. "Managing Dilemmas of Resource Mobilization Through Jugaad: A Multi-Method Study of Social Enterprises in Indian Healthcare." *Strategic Entrepreneurship Journal* 14, no. 3: 419–443.

Agrawal, A., J. Gans, and A. Goldfarb. 2018. *Prediction Machines: The Simple Economics of Artificial Intelligence*. Harvard Business Press.

Ahmed, F. U., and L. Brennan. 2019. "An Institution-Based View of Firms' Early Internationalization." *International Marketing Review* 36, no. 6: 911–954.

Ahsan, M., S. Adomako, F. Donbesuur, and K. F. Mole. 2022. "Entrepreneurial Passion and Product Innovation Intensity in New Ventures: Mediating Effects of Exploration and Exploitation Activities." *British Journal of Management* 34: 849–872.

Amin, S. B., and S. Rahman. 2019. "The Role of ICT in Energy Sector: Towards a Digital Bangladesh by 2021." In *Energy Resources in Bangladesh*. Springer Cham.

Anderson, J. C., and D. W. Gerbing. 1988. "Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach." *Psychological Bulletin* 103, no. 3: 411–423.

Appio, F. P., F. Frattini, A. M. Petruzzelli, and P. Neirotti. 2021. "Digital Transformation and Innovation Management: A Synthesis of Existing Research and an Agenda for Future Studies." *Journal of Product Innovation Management* 38, no. 1: 4–20.

Asheim, B. T., and M. S. Gertler. 2006. *The Geography of Innovation: Regional Innovation Systems*. Oxford University Press.

Audretsch, D. B., and M. Belitski. 2024. "Digitalization, Resource Mobilization and Firm Growth in Emerging Industries." *British Journal of Management* 35, no. 2: 613–628.

Bacq, S., L. F. Ofstein, J. R. Kickul, and L. K. Gundry. 2017. "Perceived Entrepreneurial Munificence and Entrepreneurial Intentions: A Social Cognitive Perspective." *International Small Business Journal* 35, no. 5: 639–659.

Bag, S., J. H. C. Pretorius, S. Gupta, and Y. K. Dwivedi. 2021. "Role of Institutional Pressures and Resources in the Adoption of Big Data Analytics Powered Artificial Intelligence, Sustainable Manufacturing Practices and Circular Economy Capabilities." *Technological Forecasting and Social Change* 163: 120420.

Baker, T., and R. E. Nelson. 2005. "Creating Something From Nothing: Resource Construction Through Entrepreneurial Bricolage." *Administrative Science Quarterly* 50, no. 3: 329–366.

Bandura, A. 2021. "Analysis of Modeling Processes." In *Psychological Modeling*, 1–62. Routledge.

Bandura, A. 1986. "The Explanatory and Predictive Scope of Self-Efficacy Theory." *Journal of Social and Clinical Psychology* 4, no. 3: 359–373.

Bandura, A. 1989. "Human Agency in Social Cognitive Theory." *American Psychologist* 44, no. 9: 1175–1189.

Baron, R. A. 1998. "Cognitive Mechanisms in Entrepreneurship: Why and When Enterpreneurs Think Differently Than Other People." *Journal of Business Venturing* 13, no. 4: 275–294.

Baroncelli, S., A. Caputo, E. Santini, and C. Theodoraki. 2024. "Resilience and Entrepreneurial Decision-Making: The Heterogeneity Among Italian Innovative Start-Ups." *Entrepreneurship & Regional Development* 36, no. 5–6: 798–815.

BASIS. 2021. "BASIS Foreign Exchange Manual 2021." Retrieved from Dhaka. https://basis.org.bd/public/files/publication/60cab48d1e235d2d0b3d48b8d1b2a496-01012022012405.pdf.

BASIS. 2022a. "Member List." https://basis.org.bd/member-list.

BASIS. 2022b. "Smart Bangladesh—ICT for the Future." Retrieved from Dhaka, Bangladesh. https://softexpo.com.bd/event/details/27/smart-bangladesh-role-of-the-ict-sector.

Baum, J. R., E. A. Locke, and K. G. Smith. 2001. "A Multidimensional Model of Venture Growth." *Academy of Management Journal* 44, no. 2: 292–303.

Bettiga, D., and L. Lamberti. 2017. "Exploring the Adoption Process of Personal Technologies: A Cognitive-Affective Approach." *Journal of High Technology Management Research* 28, no. 2: 179–187.

BIDA. 2025. "BANGLADESH CALLING—A Gateway to High-Growth Investment Opportunities." Retrieved from Dhaka. https://summit.bida.gov.bd/.

Boateng, H., D. R. Adam, A. F. Okoe, and T. Anning-Dorson. 2016. "Assessing the Determinants of Internet Banking Adoption Intentions: A Social Cognitive Theory Perspective." *Computers in Human Behavior* 65: 468–478.

Breschi, S., and F. Malerba. 1997. "Sectoral Innovation Systems: Technological Regimes, Schumpeterian Dynamics, and Spatial Boundaries." *Systems of Innovation: Technologies, Institutions and Organizations* 1: 130–156.

Bullough, A., and M. Renko. 2013. "Entrepreneurial Resilience During Challenging Times." *Business Horizons* 56, no. 3: 343–350.

Burt, M. G. 1992. "The Justification for Applying the Effective-Mass Approximation to Microstructures." *Journal of Physics: Condensed Matter* 4, no. 32: 6651.

Burt, R. S. 2000. "The Network Structure of Social Capital." *Research in Organizational Behavior* 22, no. 1: 345–423.

Cable, D. M., and D. S. DeRue. 2002. "The Convergent and Discriminant Validity of Subjective Fit Perceptions." *Journal of Applied Psychology* 87, no. 5: 875–884.

Calic, G., F. Neville, S. Furnari, and C. R. Chan. 2024. "Seeing the Whole: Configurational Cognition and New Venture Resource Mobilization." *Strategic Management Journal* 46, no. 2: 309–347.

Carayannis, E. G., and D. F. Campbell. 2009. "'Mode 3' and 'Quadruple Helix': Toward a 21st Century Fractal Innovation Ecosystem." *International Journal of Technology Management* 46, no. 3–4: 201–234.

Cennamo, C., G. B. Dagnino, A. Di Minin, and G. Lanzolla. 2020. "Managing Digital Transformation: Scope of Transformation and Modalities of Value Co-Generation and Delivery." *California Management Review* 62, no. 4: 5–16.

Chalmers, D., N. G. MacKenzie, and S. Carter. 2021. "Artificial Intelligence and Entrepreneurship: Implications for Venture Creation in the Fourth Industrial Revolution." *Entrepreneurship Theory and Practice* 45, no. 5: 1028–1053.

Chang, S. J., A. Van Witteloostuijn, and L. Eden. 2010. "From the Editors: Common Method Variance in International Business Research." *Journal of International Business Studies* 41, no. 2: 178–184.

Chaston, I., and E. Sadler-Smith. 2012. "Entrepreneurial Cognition, Entrepreneurial Orientation and Firm Capability in the Creative Industries." *British Journal of Management* 23, no. 3: 415–432.

Cruz-González, J., P. López-Sáez, J. E. Navas-López, and M. Delgado-Verde. 2014. "Directions of External Knowledge Search: Investigating Their Different Impact on Firm Performance in High-Technology Industries." *Journal of Knowledge Management* 18, no. 5: 847–866.

Dahlke, J., M. Beck, J. Kinne, et al. 2024. "Epidemic Effects in the Diffusion of Emerging Digital Technologies: Evidence From Artificial Intelligence Adoption." *Research Policy* 53, no. 2: 104917.

Daugherty, P. R., and H. J. Wilson. 2018. *Human+ Machine: Reimagining Work in the Age of AI*. Harvard Business Press.

Dheer, R. J., and T. Lenartowicz. 2019. "Cognitive Flexibility: Impact on Entrepreneurial Intentions." *Journal of Vocational Behavior* 115: 103339.

Di Vaio, A., R. Palladino, R. Hassan, and O. Escobar. 2020. "Artificial Intelligence and Business Models in the Sustainable Development Goals Perspective: A Systematic Literature Review." *Journal of Business Research* 121: 283–314.

Diamantopoulos, A., N. Reynolds, and B. Schlegelmilch. 1994. "Pretesting in Questionnaire Design: The Impact of Respondent Characteristics on Error Detection." *Journal of the Market Research Society* 36, no. 4: 295–314.

Edquist, C. 1997. "Systems of Innovation Approaches–Their Emergence and Characteristics. Systems of Innovation." *Technologies, Institutions and Organizations* 1989: 1–35.

Eggers, J. P., and S. Kaplan. 2009. "Cognition and Renewal: Comparing CEO and Organizational Effects on Incumbent Adoptation to Technical Change." *Organization Science* 20, no. 2: 461–477.

Eisingerich, A. B., S. J. Bell, and P. Tracey. 2010. "How Can Clusters Sustain Performance? The Role of Network Strength, Network Openness, and Environmental Uncertainty." *Research Policy* 39, no. 2: 239–253.

Felten, E., M. Raj, and R. Seamans. 2021. "Occupational, Industry, and Geographic Exposure to Artificial Intelligence: A Novel Dataset and Its Potential Uses." *Strategic Management Journal* 42, no. 12: 2195–2217.

Fischer, E., and A. R. Reuber. 2011. "Social Interaction via New Social Media: (How) Can Interactions on Twitter Affect Effectual Thinking and Behavior?" *Journal of Business Venturing* 26, no. 1: 1–18.

Floetgen, R. J., J. Strauss, J. Weking, et al. 2021. "Introducing Platform Ecosystem Resilience: Leveraging Mobility Platforms and Their Ecosystems for the New Normal During COVID-19." *European Journal of Information Systems* 30, no. 3: 304–321.

Fornell, C., and D. F. Larcker. 1981. "Evaluating Structural Equation Models With Unobservable Variables and Measurement Error." *Journal of Marketing Research* 18, no. 1: 39–50.

Fuller, C. M., M. J. Simmering, G. Atinc, Y. Atinc, and B. J. Babin. 2016. "Common Methods Variance Detection in Business Research." *Journal of Business Research* 69, no. 8: 3192–3198.

Ganeshkumar, C., S. K. Jena, A. Sivakumar, and T. Nambirajan. 2021. "Artificial Intelligence in Agricultural Value Chain: Review and Future Directions." *Journal of Agribusiness in Developing and Emerging Economies* 13: 379–398.

Garcia, P. R. J. M., P. Sharma, A. De Massis, M. Wright, and L. Scholes. 2019. "Perceived Parental Behaviors and Next-Generation Engagement in Family Firms: A Social Cognitive Perspective." *Entrepreneurship Theory and Practice* 43, no. 2: 224–243.

Garud, R., and P. Karnøe. 2003. "Bricolage Versus Breakthrough: Distributed and Embedded Agency in Technology Entrepreneurship." *Research Policy* 32, no. 2: 277–300.

George, N. M., V. Parida, T. Lahti, and J. Wincent. 2016. "A Systematic Literature Review of Entrepreneurial Opportunity Recognition: Insights on Influencing Factors." *International Entrepreneurship and Management Journal* 12, no. 2: 309–350.

Giuggioli, G., and M. M. Pellegrini. 2022. "Artificial Intelligence as an Enabler for Entrepreneurs: A Systematic Literature Review and an Agenda for Future Research." *International Journal of Entrepreneurial Behavior & Research* 29, no. 4: 816–837.

Glasbeek, L. 2024. "Bricolage and Its Strategic Connotations: A Study of Greek Social Entrepreneurs in Times of Crisis." *British Journal of Management*. https://doi.org/10.1111/1467-8551.12880.

Graham, M. H. 2003. "Confronting Multicollinearity in Ecological Multiple Regression." *Ecology* 84, no. 11: 2809–2815.

Granstrand, O. 2000. *Corporate Innovation Systems. A Comparative Study of Multi-Technology Corporations in Japan, Sweden and the USA*. Chalmers University of Technology.

Granstrand, O., and M. Holgersson. 2020. "Innovation Ecosystems: A Conceptual Review and a New Definition." *Technovation* 90, no. 2: 102098.

Grégoire, D. A., P. S. Barr, and D. A. Shepherd. 2010. "Cognitive Processes of Opportunity Recognition: The Role of Structural Alignment." *Organization Science* 21, no. 2: 413–431.

Gu, W. 2023. "Impact of Managers' Overconfidence Upon Listed Firms' Entrepreneurial Behavior in an Emerging Market." *Journal of Business Research* 155: 113453.

Guide, V. D. R., and M. Ketokivi. 2015. "Notes From the Editors: Redefining Some Methodological Criteria for the Journal." *Journal of Operations Management* 37, no. 1: 5–8.

Gulati, R. 2007. *Managing Network Resources: Alliances, Affiliations, and Other Relational Assets*. Oxford University Press.

Guo, H., Z. Su, and D. Ahlstrom. 2016. "Business Model Innovation: The Effects of Exploratory Orientation, Opportunity Recognition, and Entrepreneurial Bricolage in an Emerging Economy." *Asia Pacific Journal of Management* 33, no. 2: 533–549.

Guo, Z., J. Zhang, and L. Gao. 2018. "It Is Not a Panacea! The Conditional Effect of Bricolage in SME Opportunity Exploitation." *R&D Management* 48, no. 5: 603–614.

Gupta, B. B., A. Gaurav, P. K. Panigrahi, and V. Arya. 2023. "Analysis of Artificial Intelligence-Based Technologies and Approaches on Sustainable Entrepreneurship." *Technological Forecasting and Social Change* 186, no. 2: 122–152.

Haefner, N., J. Wincent, V. Parida, and O. Gassmann. 2021. "Artificial Intelligence and Innovation Management: A Review, Framework, and Research Agenda." *Technological Forecasting and Social Change* 162: 120392.

Hai, T. N., Q. N. Van, and M. N. Thi Tuyet. 2021. "Digital Transformation: Opportunities and Challenges for Leaders in the Emerging Countries in Response to COVID-19 Pandemic." *Emerging Science Journal* 5, no. 1: 21–36.

Hair, J. F., R. E. Anderson, B. J. Babin, and W. C. Black. 2010. *Multivariate Data Analysis: A Global Perspective*. Vol. 7. Pearson.

Haukipuro, L., S. Väinämö, V. Virta, and M. Perälä-Heape. 2023. "Key Aspects of Establishing Research, Knowledge, and Innovation-Based Hubs as Part of the Local Innovation Ecosystem." *R&D Management* 54, no. 2: 283–299.

Horowitz, M. C. 2018. "Artificial Intelligence, International Competition, and the Balance of Power." In *American Defense Policy*, edited by M. Krieger, L. C. Garcia, J. Riley, and W. Atkins, vol. 1, 36–57. JHU Press.

Iheanachor, N., I. Umukoro, and A. Y. Aránega. 2023. "Ecosystem Emergence in Emerging Markets: Evidence From the Nigerian Digital Financial Services Ecosystem." *Technological Forecasting and Social Change* 190: 122426.

Inceoglu, I., T. Vanacker, and S. Vismara. 2024. "Digitalization and Resource Mobilization." *British Journal of Management* 35, no. 2: 576–593.

Jack, S. L. 2005. "The Role, Use and Activation of Strong and Weak Network Ties: A Qualitative Analysis." *Journal of Management Studies* 42, no. 6: 1233–1259.

Jarillo, J. 1989. "Entrepreneurship and Growth: The Strategic Use of External Resources." *Journal of Business Venturing* 4, no. 2: 133.

Keh, H. T., M. Der Foo, and B. C. Lim. 2002. "Opportunity Evaluation Under Risky Conditions: The Cognitive Processes of Entrepreneurs." *Entrepreneurship Theory and Practice* 27, no. 2: 125–148.

Kemp, A. 2024. "Competitive Advantage Through Artificial Intelligence: Toward a Theory of Situated AI." *Academy of Management Review* 49, no. 3: 618–635.

Kinkel, S., M. Baumgartner, and E. Cherubini. 2022. "Prerequisites for the Adoption of AI Technologies in Manufacturing–Evidence From a Worldwide Sample of Manufacturing Companies." *Technovation* 110: 102375.

Kiss, A., W. Danis, and S. Nair. 2015. "The Role of Serendipity in International Opportunity Recognition: A Cognitive Explanation." In *Academy of Management Proceedings*, vol. 2015, no. 1, 11909. Academy of Management.

Kreiser, P. M., L. D. Marino, D. F. Kuratko, and K. M. Weaver. 2013. "Disaggregating Entrepreneurial Orientation: The Non-Linear Impact of Innovativeness, Proactiveness and Risk-Taking on SME Performance." *Small Business Economics* 40, no. 2: 273–291.

Krueger, N. F., Jr. 2003. "The Cognitive Psychology of Entrepreneurship." In *Handbook of Entrepreneurship Research: An Interdisciplinary Survey and Introduction*, 105–140. Springer US.

Kumar, A., N. Gupta, and G. Bapat. 2024. "Who Is Making the Decisions? How Retail Managers Can Use the Power of ChatGPT." *Journal of Business Strategy* 45, no. 3: 161–169.

Kumar, V., B. Rajan, R. Venkatesan, and J. Lecinski. 2019. "Understanding the Role of Artificial Intelligence in Personalized Engagement Marketing." *California Management Review* 61, no. 4: 135–155.

Kuratko, D. F., and J. G. Covin. 2025. "Fifty Years of Entrepreneurship: Recalling the Past, Examining the Present, & Foreshadowing the Future." *Journal of Business Research* 186: 114980.

Kyprianou, C., S. Vedula, W. Pu, and M. Fitza. 2024. "Shifts in National Entrepreneurial Culture: The Promise of Linguistic Cultural Artifacts and Machine Learning Analysis." *Strategic Entrepreneurship Journal* 19, no. 1: 29–82.

LaRose, R., and M. S. Eastin. 2004. "A Social Cognitive Theory of Internet Uses and Gratifications: Toward a New Model of Media Attendance." *Journal of Broadcasting & Electronic Media* 48, no. 3: 358–377.

Lee, Y. S., T. Kim, S. Choi, and W. Kim. 2022. "When Does AI Pay Off? AI-Adoption Intensity, Complementary Investments, and R&D Strategy." *Technovation* 118: 102590.

Leite, H., and I. R. Hodgkinson. 2021. "Examining Resilience Across a Service Ecosystem Under Crisis." *Public Management Review* 25: 1–20.

Leonardi, P. M. 2021. "COVID-19 and the New Technologies of Organizing: Digital Exhaust, Digital Footprints, and Artificial Intelligence in the Wake of Remote Work." *Journal of Management Studies* 58, no. 1: 249–254.

Lévesque, M., M. Obschonka, and S. Nambisan. 2022. "Pursuing Impactful Entrepreneurship Research Using Artificial Intelligence." *Entrepreneurship Theory and Practice* 46, no. 4: 803–832.

Li, J., H. Ding, Y. Hu, and G. Wan. 2021. "Dealing With Dynamic Endogeneity in International Business Research." *Journal of International Business Studies* 53, no. 3: 339–362.

Liebregts, W., P. Darnihamedani, E. Postma, and M. Atzmueller. 2020. "The Promise of Social Signal Processing for Research on Decision-Making in Entrepreneurial Contexts." *Small Business Economics* 55, no. 3: 589–605.

Liñán, F., and A. Fayolle. 2015. "A Systematic Literature Review on Entrepreneurial Intentions: Citation, Thematic Analyses, and Research Agenda." *International Entrepreneurship and Management Journal* 11: 907–933.

Liñán, F., and Y. W. Chen. 2009. "Development and Cross–Cultural Application of a Specific Instrument to Measure Entrepreneurial Intentions." *Entrepreneurship Theory and Practice* 33, no. 3: 593–617.

Lo, J. Y. C. 2015. "Selling Science: Resource Mobilization Strategies in the Emerging Field of Nanotechnology." *Research Policy* 44, no. 8: 1513–1526.

Loebbecke, C., and A. Picot. 2015. "Reflections on Societal and Business Model Transformation Arising From Digitization and Big Data Analytics: A Research Agenda." *Journal of Strategic Information Systems* 24, no. 3: 149–157.

Lokuge, S., D. Sedera, V. Grover, and X. Dongming. 2019. "Organizational Readiness for Digital Innovation: Development and Empirical Calibration of a Construct." *Information & Management* 56, no. 3: 445–461.

Lundvall, B. A. 1992. "National Systems of Innovation: Towards a Theory of Innovation and Interactive Learning." In *The Learning Economy and the Economics of Hope*. Anthem Press.

Lyons, R., C. O'Gorman, F. U. Ahmed, and E. Clinton. 2020. "Parental Emotional Support as a Driver of Next Generations' Family Business Succession Intentions." In *Academy of Management Proceedings*, vol. 2020, no. 1: 13350. Academy of Management.

Mariani, M. M., I. Machado, V. Magrelli, and Y. K. Dwivedi. 2023. "Artificial Intelligence in Innovation Research: A Systematic Review, Conceptual Framework, and Future Research Directions." *Technovation* 122: 102623.

Mateus, S., and S. Sarkar. 2024. "Bricolage—A Systematic Review, Conceptualization, and Research Agenda." *Entrepreneurship & Regional Development* 36: 1–22.

McKinsey & Co. 2023. *The State of AI in 2023: Generative AI's Breakout Year*. McKinsey Global Institute. https://www.mckinsey.com/capabilities/quantumblack/our-insights/the-state-of-ai-in-2023-generative-ais-breakout-year.

McMullen, J. S., M. S. Wood, and L. E. Palich. 2014. "Entrepreneurial Cognition and Social Cognitive Neuroscience." *Handbook of Entrepreneurial Cognition* 29, no. 2: 723–740.

Menz, M., S. Kunisch, J. Birkinshaw, et al. 2021. "Corporate Strategy and the Theory of the Firm in the Digital Age." *Journal of Management Studies* 58, no. 7: 1695–1720.

Michelfelder, I., and J. Kratzer. 2013. "Why and How Combining Strong and Weak Ties Within a Single Inter-Organizational R&D Collaboration Outperforms Other Collaboration Structures." *Journal of Product Innovation Management* 30, no. 6: 1159–1177.

Miskat, M. I., P. Sarker, H. Chowdhury, et al. 2023. "Current Scenario of Solar Energy Applications in Bangladesh: Techno-Economic Perspective, Policy Implementation, and Possibility of the Integration of Artificial Intelligence." *Energies* 16, no. 3: 1494–1511.

Mitchell, R. K., L. Busenitz, T. Lant, P. P. McDougall, E. A. Morse, and J. B. Smith. 2002. "Toward a Theory of Entrepreneurial Cognition: Rethinking the People Side of Entrepreneurship Research." *Entrepreneurship Theory and Practice* 27, no. 2: 93–104.

Mitchell, R. K., L. Busenitz, T. Lant, P. P. McDougall, E. A. Morse, and J. B. Smith. 2004. "The Distinctive and Inclusive Domain of Entrepreneurial Cognition Research." *Entrepreneurship Theory and Practice* 28, no. 6: 505–518.

Mostafiz, M. I., F. Ahmed, and P. Hughes. 2022. "Open Innovation Pathway to Firm Performance: The Role of Dynamic Marketing Capability in Malaysian Entrepreneurial Firms." *International Journal of Entrepreneurial Behavior and Research* 31: 673–701.

Mostafiz, M. I., M. Hughes, N. Gali, and M. Sambasivan. 2022. "The Context-Sensitivity of International Entrepreneurial Orientation and the Role of Process and Product Innovation Capabilities." *British Journal of Management* 34: 2015–2035.

Mrazek, M., and F. O'Neill. 2020. *Artificial Intelligence and Healthcare in Emerging Markets*. International Finance Corporation.

Nambisan, S., and R. A. Baron. 2013. "Entrepreneurship in Innovation Ecosystems: Entrepreneurs' Self–Regulatory Processes and Their Implications for New Venture Success." *Entrepreneurship Theory and Practice* 37, no. 5: 1071–1097.

Nambisan, S., K. Lyytinen, A. Majchrzak, and M. Song. 2017. "Digital Innovation Management." *MIS Quarterly* 41, no. 1: 223–238.

Obschonka, M., and D. B. Audretsch. 2020. "Artificial Intelligence and Big Data in Entrepreneurship: A New Era has Begun." *Small Business Economics* 55, no. 2: 529–539.

Obschonka, M., D. A. Grégoire, B. Nikolaev, et al. 2024. "Artificial Intelligence and Entrepreneurship: A Call for Research to Prospect and Establish the Scholarly AI Frontiers." *Entrepreneurship Theory and Practice* 49: 620–641. https://doi.org/10.1177/10422587241304676.

Oh, D. S., F. Phillips, S. Park, and E. Lee. 2016. "Innovation Ecosystems: A Critical Examination." *Technovation* 54: 1–6.

Paust, S., S. Korsgaard, and C. Thrane. 2024. "Entrepreneurial Prototyping: The Role of Purpose, Prototype Recycling, and Skills Bricolage." *Small Business Economics*: 1–25.

Peng, M. W., D. Y. Wang, and Y. Jiang. 2008. "An Institution-Based View of International Business Strategy: A Focus on Emerging Economies." *Journal of International Business Studies* 39: 920–936.

Podsakoff, P. M., S. B. MacKenzie, J. Y. Lee, and N. P. Podsakoff. 2003. "Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies." *Journal of Applied Psychology* 88, no. 5: 879–903.

Pustovrh, A., K. Rangus, and M. Drnovšek. 2020. "The Role of Open Innovation in Developing an Entrepreneurial Support Ecosystem." *Technological Forecasting and Social Change* 152: 119892.

Radziwon, A., M. L. Bogers, H. Chesbrough, and T. Minssen. 2022. "Ecosystem Effectuation: Creating New Value Through Open Innovation During a Pandemic." *R&D Management* 52, no. 2: 376–390.

Rahman, M. S., N. T. Safa, S. Sultana, S. Salam, A. Karamehic-Muratovic, and H. J. Overgaard. 2022. "Role of Artificial Intelligence-Internet of Things (AI-IoT) Based Emerging Technologies in the Public Health Response to Infectious Diseases in Bangladesh." *Parasite Epidemiology and Control* 18: e00266.

Rana, N. P., R. Pillai, B. Sivathanu, and N. Malik. 2024. "Assessing the Nexus of Generative AI Adoption, Ethical Considerations and Organizational Performance." *Technovation* 135: 103064.

Rashid, A. T., and A. K. Rashid. 2020. "Rural ICT Business in Bangladesh: A Credible Development Agent?" *South Asia Research* 40, no. 1: 58–74.

Ratten, V. 2013. "Cloud Computing: A Social Cognitive Perspective of Ethics, Entrepreneurship, Technology Marketing, Computer Self-Efficacy and Outcome Expectancy on Behavioural Intentions." *Australasian Marketing Journal* 21, no. 3: 137–146.

Ratten, V., and H. Ratten. 2007. "Social Cognitive Theory in Technological Innovations." *European Journal of Innovation Management* 10, no. 1: 90–108.

Reed, W. R. 2015. "On the Practice of Lagging Variables to Avoid Simultaneity." *Oxford Bulletin of Economics and Statistics* 77, no. 6: 897–905.

Ritter, A. C., T. Treffers, A. Hein, et al. 2021. "Towards a Strategy for Resource Mobilization to Generate High Funding during New Venture Creation." In *Academy of Management Proceedings*, vol. 2021, 13278. Academy of Management.

Robertson, J., A. Caruana, and C. Ferreira. 2023. "Innovation Performance: The Effect of Knowledge-Based Dynamic Capabilities in Cross-Country Innovation Ecosystems." *International Business Review* 32, no. 2: 101866. https://doi.org/10.1016/j.ibusrev.2021.101866.

Roundy, P. T., and S. Im. 2024. "Combining Cognition and Context: Entrepreneurial Alertness and the Microfoundations of Entrepreneurial Ecosystems." *Asia Pacific Journal of Management* 42: 1–19.

Salunke, S., J. Weerawardena, and J. R. McColl-Kennedy. 2013. "Competing Through Service Innovation: The Role of Bricolage and Entrepreneurship in Project-Oriented Firms." *Journal of Business Research* 66, no. 8: 1085–1097.

Sammarra, A., and L. Biggiero. 2008. "Heterogeneity and Specificity of Inter-Firm Knowledge Flows in Innovation Networks." *Journal of Management Studies* 45, no. 4: 800–829.

Sancho, L. M. P., A. Martín-Navarro, and A. R. Ramos-Rodríguez. 2020. "Will They End Up Doing What They Like? The Moderating Role of the Attitude Towards Entrepreneurship in the Formation of Entrepreneurial Intentions." *Studies in Higher Education* 45, no. 2: 416–433.

Senyard, J., T. Baker, P. Steffens, and P. Davidsson. 2014. "Bricolage as a Path to Innovativeness for Resource Constrained New Firms." *Journal of Product Innovation Management* 31, no. 2: 211–230.

Shapiro, S. S., and M. B. Wilk. 1965. "An Analysis of Variance Test for Normality (Complete Samples)." *Biometrika* 52, no. 3/4: 591–611.

Shepherd, D. A., and A. Majchrzak. 2022. "Machines Augmenting Entrepreneurs: Opportunities (and Threats) at the Nexus of Artificial Intelligence and Entrepreneurship." *Journal of Business Venturing* 37, no. 4: 106227.

Shepherd, D. A., and H. Patzelt. 2018. "Motivation and Entrepreneurial Cognition." In *Entrepreneurial Cognition*, edited by D. A. Shepherd and H. Patzelt, 51–103. Palgrave Macmillan.

Shi, X., and Y. Shi. 2022. "Unpacking the Process of Resource Allocation Within an Entrepreneurial Ecosystem." *Research Policy* 51, no. 9: 104378.

Shore, A., M. Tiwari, P. Tandon, and C. Foropon. 2024. "Building Entrepreneurial Resilience During Crisis Using Generative AI: An Empirical Study on SMEs." *Technovation* 135: 103063.

Silva, J. P. N., and A. Grützmann. 2022. "The Evolution of the Disruptive Ecosystem: A Framework Integrating Disruption, Ecosystems, and Business Models." *European Journal of Innovation Management* 26: 1255–1270.

Soluk, J., I. Miroshnychenko, N. Kammerlander, and A. De Massis. 2021. "Family Influence and Digital Business Model Innovation: The Enabling Role of Dynamic Capabilities." *Entrepreneurship Theory and Practice* 45, no. 4: 867–905.

Stajkovic, A. D., and F. Luthans. 1998. "Social Cognitive Theory and Self-Efficacy: Goin Beyond Traditional Motivational and Behavioral Approaches." *Organizational Dynamics* 26, no. 4: 62–74.

Stevenson, R., C. L. Guarana, J. Lee, S. L. Conder, P. Arvate, and C. Bonani. 2024. "Entrepreneurial Identity and Entrepreneurial Action: A Within-Person Field Study." *Personnel Psychology* 77, no. 1: 197–224.

Thomas, N., A. Randolph, and A. Marin. 2020. "A Network View of Entrepreneurial Cognition in Corporate Entrepreneurship Contexts: A Socially Situated Approach." *Management Decision* 58, no. 7: 1331–1354.

Thornton, S. C., S. C. Henneberg, A. Leischnig, and P. Naudé. 2019. "It's in the Mix: How Firms Configure Resource Mobilization for New Product Success." *Journal of Product Innovation Management* 36, no. 4: 513–531.

Thornton, S. C., S. C. Henneberg, and P. Naudé. 2015. "An Empirical Investigation of Network-Oriented Behaviors in Business-To-Business Markets." *Industrial Marketing Management* 49, no. 2: 167–180.

Townsend, D. M., and R. A. Hunt. 2019. "Entrepreneurial Action, Creativity, and Judgment in the Age of Artificial Intelligence." *Journal of Business Venturing Insights* 11: e00126.

Upadhyay, N., S. Upadhyay, and Y. K. Dwivedi. 2022. "Theorizing Artificial Intelligence Acceptance and Digital Entrepreneurship Model." *International Journal of Entrepreneurial Behavior & Research* 28, no. 5: 1138–1166.

Upadhyay, N., S. Upadhyay, M. M. Al-Debei, A. M. Baabdullah, and Y. K. Dwivedi. 2023. "The Influence of Digital Entrepreneurship and Entrepreneurial Orientation on Intention of Family Businesses to Adopt Artificial Intelligence: Examining the Mediating Role of Business Innovativeness." *International Journal of Entrepreneurial Behavior & Research* 29, no. 1: 80–115.

Uriarte, S., H. Baier-Fuentes, J. Espinoza-Benavides, and W. Inzunza-Mendoza. 2025. "Artificial Intelligence Technologies and Entrepreneurship: A Hybrid Literature Review." *Review of Managerial Science*: 1–49. https://doi.org/10.1007/s11846-025-00839-4.

Vakratsas, D., and Z. Ma. 2009. "Firm Adoptiveness and Performance Heterogeneity: The Case of Sales–Advertising Dynamics in an Evolving Product Market." *Journal of Evolutionary Economics* 19, no. 1: 21–40.

van Gorp, D., M. Brandt, and H. Kievit. 2015. "Assessment of the Attractiveness of Bangladesh as an ICT Offshoring Destination." *China–USA Business Review* 14, no. 2: 67–78.

Vial, G. 2019. "Understanding Digital Transformation: A Review and a Research Agenda." *Journal of Strategic Information Systems* 28, no. 2: 118–144.

Walton, N., and B. S. Nayak. 2021. "Rethinking of Marxist Perspectives on Big Data, Artificial Intelligence (AI) and Capitalist Economic Development." *Technological Forecasting and Social Change* 166: 120576.

Wamba, S. F., M. M. Queiroz, C. J. C. Jabbour, and C. V. Shi. 2023. "Are Both Generative AI and ChatGPT Game Changers for 21st-Century Operations and Supply Chain Excellence?" *International Journal of Production Economics* 265: 109015.

Welter, C., R. Mauer, and R. J. Wuebker. 2016. "Bridging Behavioral Models and Theoretical Concepts: Effectuation and Bricolage in the Opportunity Creation Framework." *Strategic Entrepreneurship Journal* 10, no. 1: 5–20.

Williams, T. A., J. M. Li, and E. Y. Zhao. 2024. "Entrepreneurial Resourcefulness: Theoretical Origins, Integrative Review, and Research Agenda." *Journal of Management Studies*. https://doi.org/10.1111/joms.13181.

Wood, R., and A. Bandura. 1989. "Social Cognitive Theory of Organizational Management." *Academy of Management Review* 14, no. 3: 361–384.

Wu, W. P. 2008. "Dimensions of Social Capital and Firm Competitiveness Improvement: The Mediating Role of Information Sharing." *Journal of Management Studies* 45, no. 1: 122–146.

Yang, C. H. 2022. "How Artificial Intelligence Technology Affects Productivity and Employment: Firm-Level Evidence From Taiwan." *Research Policy* 51, no. 6: 104536.

Yu, X., G. Cao, and X. Wang. 2024. "Entrepreneurial Bricolage and Disruptive Innovation: The Joint Effect of Learning From Failure and Institutional Voids." *R&D Management*. https://doi.org/10.1111/radm.12736.

Zaefarian, G., V. Kadile, S. C. Henneberg, and A. Leischnig. 2017. "Endogeneity Bias in Marketing Research: Problem, Causes and Remedies." *Industrial Marketing Management* 65: 39–46.

Zaheer, A., and G. G. Bell. 2005. "Benefiting From Network Position: Firm Capabilities, Structural Holes, and Performance." *Strategic Management Journal* 26, no. 9: 809–825.

Zahra, S. A., and J. Covin. 1995. "Contextual Influences on the Corporate Entrepreneurship- Performance Relationship: A Longitudinal Analysis." *Journal of Business Venturing* 10, no. 1: 43–58.

Zahra, S. A., J. S. Korri, and J. Yu. 2005. "Cognition and International Entrepreneurship: Implications for Research on International Opportunity Recognition and Exploitation." *International Business Review* 14, no. 2: 129–146.

Appendix 1

Standard Loadings of the Measurement Items

Constructs/items	Standard loadings
Entrepreneurial cognition	
Need for Cognition	
I prioritize to have to do a lot of thinking	0.783
I don't avoid situations that require thinking in depth about something	0.765
I prefer to do something that challenges my thinking abilities rather than something that requires little thought	0.702
I prefer complex to simple problems	0.705
Thinking hard and for a long time about something gives me little satisfaction	0.788
Faith in Intuition	
I trust my initial feelings about my stakeholders	0.780
I believe in trusting my hunches	0.766
My initial impressions of stakeholders are almost always right	0.702
When it comes to trusting my stakeholders, I can usually rely on my "gut feelings"	0.707
I can usually feel when a person is right or wrong even if I cannot explain how I know	0.711
Resource mobilization	
Matching our suppliers' capacity to the demands of our customers has been an important practice in our organization	0.743
Our suppliers' ability within innovation ecosystem is critical for us to satisfy our customers	0.728
Having good relationships with both suppliers and customers within innovation ecosystem has enabled us to adopt to changes in the marketplace	0.726
Our customer-focused approach is communicated to suppliers, so that they are aware of how we serve our customers and can contribute to the success of delivering the offerings	0.752
We initiate relationships with new business partners within innovation ecosystem to gain local knowledge in a new market	0.739
We interact with the customers of our customers	0.765
We work closely with influential parties within the innovation ecosystem who have relationships with our direct customers to stimulate demand	0.798
Identifying our competitors' major customers helps us to get to know the needs and requirements of potential customers	0.787
Entrepreneurial bricolage	
We are confident of our ability to find workable solutions to new challenges by using our existing resources	0.705
We gladly take on a broader range of challenges than others with our resources would be able to	0.725
We use any existing resource that seems useful responding to a new problem or opportunity	0.708
We deal with new challenges by applying a combination of our existing resources and other resources inexpensively available to us	0.721
When dealing with new problems or opportunities, we take action by assuming that we will find a workable solution	0.777
By combining our existing resources, we take on a surprising variety of new challenges	0.797
When we face new challenges, we put together workable solutions from our existing resources	0.793
We combine resources to accomplish new challenges that the resources weren't originally intended to accomplish	0.732
Intention to adopt AI	
Our firm is planning to adopt AI-based digital technologies	0.702
Our firm will adopt AI for all major digital requirements	0.718
I think that our firm will adopt AI soon to enhance digital processes	0.733