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# Entrepreneurial Intention and Early-Stage Entrepreneurial Activity in Selected Eurasian Countries: A Panel Data Analysis (2015–2019)

**Vajihe Baghersad[1*], Elham Garmroudesfandiari[2], Morteza Akbari[3]**

1. Corresponding Author, Department of Management and Accounting, Technical and Vocational University (TVU), Tehran, Iran. Email: vbaghersad@nus.ac.ir
2. Department of Corporate Entrepreneurship, Faculty of Entrepreneurship, University of Tehran, Tehran, Iran. Email: eliesfandiary1998@gmail.com
3. Department of Technological Entrepreneurship, Faculty of Entrepreneurship, University of Tehran, Iran. Email: mortezaakbari@ut.ac.ir

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## ABSTRACT

This study examines how individual capabilities and institutional conditions jointly shape entrepreneurial intention and total early-stage entrepreneurial activity (TEA) across a cross-country sample of Eurasian and comparator economies characterized by diverse entrepreneurial and institutional environments. Focusing on entrepreneurial alertness, entrepreneurial knowledge and skills, social desirability, and economic freedom, the study investigates how individual- and country-level determinants influence entrepreneurial behavior across different institutional contexts, including transition-oriented and institutionally heterogeneous economies.Using multi-year panel data from the GEM and the Index of Economic Freedom, the study employsPLS-SEM to evaluate the simultaneous effects of individual and institutional factors on entrepreneurial intention and TEA. The findings reveal that entrepreneurial alertness and entrepreneurial knowledge and skills significantly enhance both entrepreneurial intention and TEA. In contrast, social desirability has a positive and significant effect on entrepreneurial intention but a negative and significant effect on TEA. The economic freedom has a negative and significant effect on TEA. These findings suggest that, diverse and partially volatile entrepreneurial environments, individual-level competencies play a more decisive role than formal institutional conditions alone in transforming entrepreneurial aspirations into early-stage entrepreneurial activity.The study contributes to the entrepreneurship literature by integrating individual and institutional determinants within a unified analytical framework and by contextualizing entrepreneurial dynamics within Eurasian and transition-oriented economies, including Iran. The findings further suggest that institutional conditions such as economic freedom may not necessarily facilitate the conversion of entrepreneurial intention into entrepreneurial action, particularly in environments characterized by institutional constraints, regulatory uncertainty, and uneven entrepreneurial support structures. The study offers important implications for scholars and policymakers seeking to strengthen entrepreneurial ecosystems and entrepreneurial participation across heterogeneous institutional contexts.

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## 1. Introduction

Entrepreneurship has increasingly become a critical driver of economic resilience, innovation, and societal transformation, particularly in economies characterized by institutional diversity and transitional governance structures. Entrepreneurial activity contributes to economic growth, innovation, and employment creation, while also strengthening the adaptability of national economies in uncertain environments (Sinha, Shekhar, & Valeri, 2024). As governments seek to enhance entrepreneurial ecosystems and stimulate sustainable economic development, identifying the factors that shape entrepreneurial behavior has become an important research and policy priority (Smachylo et al., 2024). In institutionally heterogeneous contexts—including several Eurasian and transition-oriented economies—entrepreneurial decision-making is often shaped simultaneously by individual capabilities and broader institutional conditions. Policymakers therefore require evidence-based insights to design effective entrepreneurship policies (Zhang & Ji, 2024). While entrepreneurs benefit from understanding how personal competencies interact with structural and institutional environments.

Understanding the determinants of entrepreneurial intention and total early-stage entrepreneurial activity (TEA) is essential for fostering entrepreneurial ecosystems that support venture creation and business development. Entrepreneurial alertness, introduced by Kirzner (1973), refers to an individual's ability to recognize previously unnoticed entrepreneurial opportunities. Existing studies have linked entrepreneurial alertness to entrepreneurial intention and TEA ( Araujo, Karami, Tang, Roldan, & dos Santos, 2023; Shepherd & Majchrzak, 2022; Stam & Simonsson, 2023). However, the mechanisms through which entrepreneurial alertness translates into actual entrepreneurial engagement remain insufficiently understood, particularly across institutionally diverse national environments. Similarly, human capital—reflected in entrepreneurial knowledge and skills—plays a critical role in enabling individuals to identify, evaluate, and exploit entrepreneurial opportunities. Prior studies support the positive influence of entrepreneurial knowledge and skills on entrepreneurial intention and early-stage entrepreneurial activity (Draghici et al., 2014; Hua et al., 2022; Nabi et al., 2021; Remeikiene et al., 2013; Samo & Hashim, 2016). Nevertheless, a more integrated understanding of how individual competencies operate across different institutional contexts remains limited.

At the macro level, institutional conditions substantially shape entrepreneurial ecosystems and influence entrepreneurial behavior. Economic freedom, commonly reflected in regulatory efficiency, property rights protection, market openness, and rule of law, has been widely associated with entrepreneurship and economic dynamism (Hall, Lawson, & Roychoudhury, 2017). At the same time, social norms and cultural perceptions significantly influence entrepreneurial decision-making (Emami & Khajeheian, 2018). Social desirability, which reflects the degree to which entrepreneurship is socially valued and culturally supported, may affect both entrepreneurial intention and entrepreneurial behavior (Laspita et al., 2023). Cross-country differences in social desirability further emphasize the importance of comparative analyses across diverse institutional and cultural environments (Capelleras et al., 2023). Although economic freedom is generally considered conducive to entrepreneurship(Stephan,

2020), the extent to which formal institutional conditions translate into actual entrepreneurial activity may vary considerably across institutional settings.

Despite extensive research on entrepreneurship, several important gaps remain. Existing studies have typically examined either individual-level determinants—such as entrepreneurial alertness and entrepreneurial knowledge(Araujo et al., 2023; Nabi et al., 2021), or macro-level determinants such as institutional quality and economic freedom (Carlos Díaz-Casero et al., 2012) in isolation. Consequently, the interaction between micro-level entrepreneurial capabilities and macro-level institutional environments remains insufficiently explored. This limitation is particularly evident in institutionally heterogeneous and transition-oriented economies, where entrepreneurial activity is shaped not only by formal institutions but also by regulatory uncertainty, evolving governance systems, and socio-cultural dynamics. Existing evidence is heavily derived from Western or globally aggregated samples, limiting the generalizability of findings to contexts such as Iran and several Eurasian and comparator economies characterized by institutional diversity and varying levels of economic openness.

Furthermore, the entrepreneurial environments of Iran and several Eurasian-related economies present distinctive characteristics that warrant closer investigation. In these contexts, entrepreneurs frequently operate under conditions shaped by institutional volatility, policy uncertainty, uneven market-support mechanisms, and the coexistence of formal and informal institutional structures. In the case of Iran, external economic sanctions, regulatory complexity, and evolving regional economic relationships further influence entrepreneurial decision-making and opportunity recognition. These conditions may create a disconnect between entrepreneurial aspirations and the ability to transform entrepreneurial intention into early-stage entrepreneurial activity. As a result, findings derived from stable Western institutional environments may not fully explain entrepreneurial dynamics within these contexts.

To address these gaps, this study integrates two complementary theoretical perspectives. The Theory of Planned Behavior (TPB) proposes that entrepreneurial intention is shaped by attitudes, subjective norms, and perceived behavioral control (Ajzen & Fishbein, 1988). Meanwhile, the Total Early-stage Entrepreneurial Activity (TEA) framework captures the prevalence of nascent and newly established entrepreneurial activity across countries. The combined use of TPB and TEA enables a more comprehensive understanding of how individual motivations and perceptions interact with institutional conditions to influence entrepreneurial outcomes. This integrated framework is particularly relevant in institutionally diverse and transition-oriented economies, where the relationship between entrepreneurial intention and entrepreneurial action may be conditioned by structural constraints and contextual uncertainties.

Accordingly, this study investigates the following research question: How do individual-level and country-level factors jointly influence entrepreneurial intention and TEA across diverse institutional environments, including Eurasian and comparator economies? To answer this question, the study employs a quantitative research design using panel data from 2015–2019 obtained from the Global Entrepreneurship Monitor (GEM) and the Index of Economic Freedom (IEF). The cross-country sample includes economies characterized by differing

institutional structures, entrepreneurial ecosystems, and socio-cultural environments, enabling a comparative examination of entrepreneurial behavior across heterogeneous contexts.

This study contributes to the entrepreneurship literature in several ways. First, it integrates micro-level and macro-level determinants within a unified analytical framework to explain entrepreneurial intention and early-stage entrepreneurial activity. Second, it extends Kirzner's concept of entrepreneurial alertness by examining its relationship with both entrepreneurial intention and TEA across institutionally diverse contexts. Third, the study contributes to institutional and entrepreneurship research by examining how economic freedom and social desirability interact with individual entrepreneurial competencies in shaping entrepreneurial outcomes. Finally, the cross-country analysis provides insights into how entrepreneurial behavior is conditioned by institutional heterogeneity, particularly within Eurasian and transition-oriented environments, including Iran. The remainder of the paper presents the theoretical framework and hypotheses, followed by the empirical analysis, discussion of findings, and theoretical and practical implications.

## 2. Literature Review

### *2.1. Entrepreneurship in Iran and Central Eurasian Economies*

Entrepreneurial activity in Iran and Eurasian economies is shaped by institutional environments undergoing significant geopolitical and economic transformation. In Iran, entrepreneurship has increasingly become a mechanism for economic resilience and opportunity creation amid domestic pressures and structural constraints. These national dynamics intersect with broader regional developments that influence entrepreneurial opportunity structures. In Central Asia, expanding transport and communication infrastructure is transforming the region into a strategic connectivity hub, enhancing cross‑border mobility and market access (Kalyuzhnova & Holzhacker, 2021). Institutional integration within the Eurasian Economic Union is also contributing to a more interconnected economic space, with implications for regulatory harmonization and trade flows across Eurasia (Vinokurov et al., 2016).

### *2.2. Entrepreneurial Intention*

Entrepreneurial intention refers to an individual's aspiration to initiate a new venture (Liñán et al., 2015; Schlaegel & Koenig, 2014; Thompson, 2009). It is a central construct for understanding entrepreneurial behavior and is shaped by several theoretical perspectives. The Theory of Planned Behavior (Ajzen, 1991) posits that intention is the strongest predictor of behavior, influenced by attitudes, subjective norms, and perceived behavioral control. Shapero and Sokol's Model of the Entrepreneurial Event (Shapero & Sokol, 1982) emphasizes perceived desirability and feasibility, often triggered by significant life events. Bandura's Social Cognitive Theory (Bandura, 1986) highlights self-efficacy as a key determinant of entrepreneurial intention.

Recent research (2020–2024) extends these foundational frameworks by incorporating personality traits such as risk-taking propensity and self-efficacy (Ciptono, Anggadwita, & Indarti, 2023), as well as contextual influences including education (Porfírio, Carrilho, Jardim, & Wittberg, 2022), access to resources(Sendra-Pons, Comeig, & Mas-Tur, 2022), and cultural

background (Tan, Pham, & Bui, 2021). Entrepreneurial education has been shown to foster intention among university students, while digitalization and social media have introduced new dynamics in how entrepreneurial intentions are formed. Social networks (Salamzadeh, Tajpour, & Hosseini, 2020), and psychological ownership also play important roles. This expanding body of literature underscores the need for multidisciplinary approaches to fully understand entrepreneurial intention.

### *2.3. Total Early-Stage Entrepreneurial Activity (TEA)*

Total early-stage entrepreneurial activity (TEA) measures the proportion of working-age individuals actively starting a business or managing one less than three years old (Hill et al., 2022; Reynolds, 2020). TEA provides insight into the vibrancy of entrepreneurial ecosystems, capturing both nascent entrepreneurs and new business owners (Fairlie & Fossen, 2018). TEA is shaped by economic conditions, social norms, and institutional frameworks (Autio, Pathak, &Wennberg, 2013; Estrin & Mickiewicz, 2011). Opportunity-driven entrepreneurship often leads to more innovative and sustainable ventures, whereas necessity-driven entrepreneurship emerges from limited employment opportunities. Supportive business environments and financial inclusion are critical for fostering TEA by ensuring access to essential resources (Lafuente et al., 2021). Comparative studies show that TEA's impact on economic growth varies between developed and transition economies, with structural challenges more pronounced in the latter. Understanding these determinants is essential for policymakers seeking to enhance entrepreneurial activity and economic development.

### *2.4. Entrepreneurial Intention & TEAas Distinct Phases*

Entrepreneurial intention and TEA represent distinct phases of the entrepreneurial process. Intention reflects a cognitive state preceding venture creation(Ajzen, 1991; Kautonen, van Gelderen, & Fink, 2015), whereas TEA captures active engagement in starting or managing a young business (Niels Bosma et al., 2021; Reynolds, 2020). Different factors influence these stages. Personal beliefs shape intention, perceived behavioral control, and social norms(Kautonen et al., 2015; Liñán & Fayolle, 2015), while TEA is more directly affected by external conditions such as economic stability, access to finance, and regulatory support (Autio & Ács, 2009; Lafuente et al., 2021). Institutional quality influences both phases but in different ways: high-quality institutions reduce barriers and support TEA (Amorós & Bosma, 2013), whereas educational and cultural factors more strongly shape intention (Liñán, Nabi, & Krueger, 2013; Walter & Block, 2016). These distinctions highlight the need for tailored policy interventions: educational initiatives can strengthen intention, while financial and regulatory reforms can enhance TEA (Amorós & Bosma, 2013; Niels Bosma et al., 2021).

### *2.5. Key Determinants in the Literature*

Entrepreneurial alertness refers to the ability to recognize and act on business opportunities (Chavoushi et al., 2021; Lanivich et al., 2022). It enables entrepreneurs to perceive market changes and trends that others may overlook (Lanivich et al., 2022). Alertness enhances opportunity recognition, a key driver of venture success, and involves gathering, interpreting,

and acting on market information efficiently. Research links alertness to cognitive traits and dynamic capabilities that support adaptation in uncertain environments (Khosravi & Faghih, 2024). It also plays a significant role in digital entrepreneurship by facilitating the identification of digital opportunities (Faghih, 2024). Enhancing alertness can improve venture performance and sustainability (Danesh, Moterased, Sakhdari, & Faghih, 2024).

Knowledge, skills, and experience are central to entrepreneurial success. Entrepreneurs with specialized knowledge and skills are better able to identify and exploit opportunities. Prior experience enhances decision-making and strategic planning (Triantari, 2024). Entrepreneurial education and training programs strengthen essential competencies (Jafarinasab et al., 2024), while mentorship facilitates the transfer of tacit knowledge. Digital tools further amplify the role of knowledge and skills in innovation and efficiency (Triantari, 2024). Continuous learning enables entrepreneurs to adapt to market changes and sustain business growth (Jafarinasab et al., 2024). Thus, environments that support skill development are crucial for entrepreneurial success.

Social desirabilitythe tendency to seek social approval—significantly influences entrepreneurial intentions and actions (Tan et al., 2021). Individuals may pursue entrepreneurship to enhance social standing (Capelleras et al., 2023). Entrepreneurship education that highlights the desirability of entrepreneurial careers can increase intention, and social norms strongly predict entrepreneurial intention among. However, social pressure may hinder genuine entrepreneurial activity (Ambad & Rafiki, 2024). While social skills support entrepreneurial success, social desirability does not always enhance perceived feasibility. Understanding this construct is essential for designing supportive educational and policy frameworks (Silveira, Cohen, & Lotta, 2024).

Economic freedom—characterized by low regulatory burdens and strong property rights—encourages entrepreneurship (Feldmann, 2017; Nyström, 2008; Sobel, 2008). It enhances access to resources and supports competition, contributing to economic prosperity(Shakya & Plemmons, 2021). Economic freedom has been linked to women's economic empowerment in India, and supports innovation and adaptability (Ajide, 2021). However, economic freedom must be balanced with policies ensuring fair competition. Its impact is evident across sectors, including European financial services (Forsberg & Hulsink, 2024). Overall, economic freedom is essential for dynamic entrepreneurial ecosystems.

### *2.6. Theoretical model and hypothesis development*

Entrepreneurial alertness, the ability to recognize overlooked opportunities (Chavoushi et al., 2021), is crucial in entrepreneurship for identifying and exploiting market gaps (I. M. Kirzner, 1999; Shane, 2003). This cognitive skill involves transforming environmental information (Kadile & Biraglia, 2022) and requires both specific and general human capital (Solesvik, Westhead, Kolvereid, & Matlay, 2012). Studies indicate that human capital investments positively influence entrepreneurial intentions through improved opportunity identification (Fayolle & Gailly, 2015; Liñán & Fayolle, 2015; Valliere, 2013). This study hypothesizes that entrepreneurial alertness significantly impacts entrepreneurial intention (Araujo et al., 2023) by enhancing cognitive capabilities for opportunity recognition and exploitation (Tang et al.,

2023). Environmental factors and individual traits further influence alertness, linking it to positive outcomes like firm performance and innovation. Recent studies have explored the impact of entrepreneurs' positive emotions by delving into the cognitive and psychological mechanisms underlying opportunity recognition (Levasseur, Tang, Karami, Busenitz, & Kacmar, 2020), self-efficacy and optimism (Tang et al., 2023), cross-cultural experiences(Pidduck, Busenitz, Zhang, & Moulick, 2020), cognitive cultural intelligence (Yang, Yu, Tang, & Ma, 2022), time perspective (Tang, Levasseur, Karami, & Busenitz, 2021), and education.Therefore, it has the hypothesis that:

**H1:** Entrepreneurial Alertnesshas a significant effect on entrepreneurial intention**.**

Entrepreneurial alertness, introduced by (Kirzner, 1999), is crucial for recognizing and acting on profitable opportunities, playing a key role in TEA (Foss & Klein, 2020). Unlike entrepreneurial intention, which is the desire to engage in entrepreneurship, alertness involves proactive opportunity identification and exploitation(Sarason, 2021). Empirical evidence shows that high entrepreneurial alertness leads to increased recognition of market gaps and resource mobilization, boosting early-stage entrepreneurial ventures and economic growth (Shepherd & Majchrzak, 2022; Stam & Simonsson, 2023). Policies enhancing entrepreneurial education, networking, and access to capital, along with a culture valuing curiosity and risk-taking, can nurture entrepreneurial alertness (Cacciotti et al., 2020). Recognizing the difference between alertness and intention is crucial for designing policies that effectively stimulate entrepreneurial activity. Therefore, it was hypothesized that:

**H2:** Entrepreneurial alertnesshas a significant impact on TEA.

Knowledge, skills, and experience constitute core components of human capital and significantly shape entrepreneurial intention. Knowledge provides the foundation for recognizing and evaluating business opportunities, while entrepreneurial skills—such as strategic planning, risk management, and problem-solving—enhance the feasibility of new ventures (Urban & Ratsimanetrimanana, 2019). Prior entrepreneurial experience strengthens self-efficacy and reduces perceived barriers to entrepreneurship.Experiential learning, gained through hands-on entrepreneurial engagement, reinforces intention by bridging theory and practice (Nabi et al., 2021). Individuals equipped with domain-specific knowledge and entrepreneurial competencies are more likely to develop entrepreneurial intentions (Fayolle & Liñán, 2014). Knowledge enhances confidence and competence, while practical skills support the translation of intention into action (Urban, 2020). Entrepreneurial education programs further strengthen these competencies, fostering intention among aspiring entrepreneurs (Tseng et al., 2022). However, the relationship between knowledge, skills, and intention is influenced by contextual factors such as cultural norms (Liñán et al., 2013)., social networks,and institutional support (Junaid, et al., 2020). These factors shape the extent to which knowledge and skills translate into entrepreneurial intention

**H3:** Knowledge and Skills has a significant effect on entrepreneurial intention**.**

Knowledge and skills not only influence intention but also play a critical role in shaping TEA. Unlike intention, which reflects a cognitive state, TEA requires tangible capabilities that enable individuals to act on entrepreneurial opportunities.Domain-specific knowledge and entrepreneurial competencies equip individuals with the tools necessary to identify, evaluate, and exploit opportunities. Empirical evidence shows a positive relationship between human capital and early-stage entrepreneurial activity (Marvel et al., 2016; Unger et al., 2011).Entrepreneurs with strong analytical, financial, and innovation-related skills exhibit higher TEA rates (Obschonka et al., 2023). Practical skills such as adaptability and problem-solving enhance resilience during the early stages of venture creation (van Gelderen, 2024). However, the translation of knowledge and skills into TEA depends on contextual factors including resource availability, institutional support, and ecosystem dynamics.Thus, environments that promote learning and skill development are essential for stimulating TEA and fostering vibrant entrepreneurial ecosystemsTherefore, it has been hypothesized that:

**H4:** Knowledgeand skills have a significant impact on TEA**.**

Social desirability—individuals' tendency to seek social approval—significantly influences entrepreneurial intention (Ruzzier, Douglas, Ruzzier, & Hojnik, 2020; Tan et al., 2021).When entrepreneurship is perceived as socially prestigious, individuals are more likely to aspire to entrepreneurial careers(Laspita et al., 2023). Social desirability encompasses cultural norms, societal values, and peer influences that shape attitudes toward entrepreneurship. Empirical studies show that perceived social prestige positively affects entrepreneurial intention (Elam & Terjesen, 2010; Krueger Jr, Reilly, & Carsrud, 2000; van Gelderen, 2024).Media portrayals of successful entrepreneurs further reinforce the desirability of entrepreneurship (Krieger, Stuetzer, Obschonka, & Salmela-Aro, 2021). However, social pressure may also hinder genuine entrepreneurial activity by encouraging conformity rather than innovation. Cultural and socioeconomic factors moderate the relationship between social desirability and intention (Liñán, Paul, & Fayolle, 2020). Therefore, it was hypothesized that:

**H5:** Social Desirability has a significant impact on entrepreneurial intention.

Recent research highlights the distinct influence of social desirability on TEA, separate from its effect on individual entrepreneurial intention. Social desirability reflects societal norms and collective perceptions regarding entrepreneurship, shaping the extent to which individuals view entrepreneurial activity as socially valued (Obschonka & Fisch, 2018). In societies where entrepreneurial success is celebrated, TEA tends to be higher, driven by individuals' aspirations for social recognition and enhanced status. Empirical evidence confirms a positive association between the perceived prestige of entrepreneurship and TEA, as culturally esteemed entrepreneurial roles encourage broader participation and contribute to innovation and economic dynamism (Foss & Klein, 2020). Media portrayals and social narratives that position entrepreneurs as role models further reinforce these perceptions, motivating individuals to pursue entrepreneurial ventures (Wyrwich, 2020).However, the relationship is shaped by contextual factors such as institutional support, regulatory quality, and resource availability(Stam & Simonsson, 2023). Thus, fostering ecosystems that both celebrate entrepreneurship and provide

tangible support is essential for translating social desirability into sustained entrepreneurial activity. Understanding these dynamics can guide policies aimed at strengthening entrepreneurial ecosystems and promoting economic development. Therefore, we hypothesized that:

**H6:** Social Desirabilityhas a significant impact on TEA.

Contemporary research highlights the strong influence of economic freedom on entrepreneurial intention. Economic freedom—defined by limited government intervention and reduced regulatory barriers—creates an environment that supports entrepreneurial activity (Bennett, 2021). Higher levels of economic freedom are consistently associated with stronger entrepreneurial intentions, as individuals perceive greater opportunities for innovation, wealth creation, and market entry within supportive institutional frameworks (Stephan, 2020). Economies with greater economic freedom tend to cultivate dynamic entrepreneurial cultures characterized by innovation, competition, and economic vitality. However, the strength of this relationship varies across contexts, influenced by cultural norms, resource availability, and socioeconomic conditions (Liñán et al., 2020). Overall, economic freedom plays a critical role in shaping entrepreneurial intention by enabling individuals to pursue new ventures and contribute to economic development. Therefore, it was hypothesized that:

**H7:** Economic Freedomhas a significant impact on entrepreneurial intention

Recent literature highlights the pivotal role of economic freedom in shaping total early-stage entrepreneurial activity (TEA), independent of its influence on entrepreneurial intention (Capelleras et al., 2023; Doan, 2024; Graham & Bonner, 2024). Economic freedom—defined by limited government intervention and fewer regulatory constraints—creates an environment that supports entrepreneurial entry and growth (Bennett, 2021). Empirical evidence shows that higher levels of economic freedom are associated with increased TEA, as entrepreneurs benefit from easier market access, stronger competition, and greater opportunities for innovation (Telaumbanua, Ekasari, Noviany, Harahap, & Kusnadi, 2024). Countries with more economic freedom typically exhibit more dynamic entrepreneurial ecosystems, reflected in higher venture creation rates(Dreher & Gassebner, 2013). However, this relationship is shaped by contextual factors such as institutional quality, market dynamics, and cultural norms. While economic freedom provides a supportive environment, its impact varies across regions and industries. Overall, economic freedom acts as a catalyst for TEA, promoting innovation and economic development. Therefore, it was hypothesized that:

**H8:** Economic Freedom has a significant impact on TEA.

Entrepreneurship progresses from intention formation to engagement in early-stage activity (TEA), shaped by the interaction of individual- and country-level factors. Individual attributes—including knowledge, skills, experience, and psychological traits—enable opportunity recognition and reduce perceived barriers (Urban & Ratsimanetrimanana, 2019).while traits such as risk tolerance and resilience further strengthen entrepreneurial propensity. Country-level conditions, including macroeconomic stability, cultural norms, regulatory quality, and access to finance, create the broader environment that facilitates or

constrains entrepreneurial behavior (Zahra et al., 2014; Kuckertz et al., 2020). Together, these factors jointly shape entrepreneurial intention and TEA. The selection of the four focal determinants in this study is grounded in their complementary theoretical roles across the entrepreneurial process. Entrepreneurial alertness and knowledge-and-skills represent core cognitive and human-capital mechanisms that shape opportunity recognition and the capacity to act, whereas social desirability and economic freedom capture the socio-institutional conditions that influence the desirability and feasibility of entrepreneurial behavior. Examining these micro- and macro-level factors together enables a comprehensive understanding of how individual capabilities interact with structural environments to shape both entrepreneurial intention and early-stage activity.

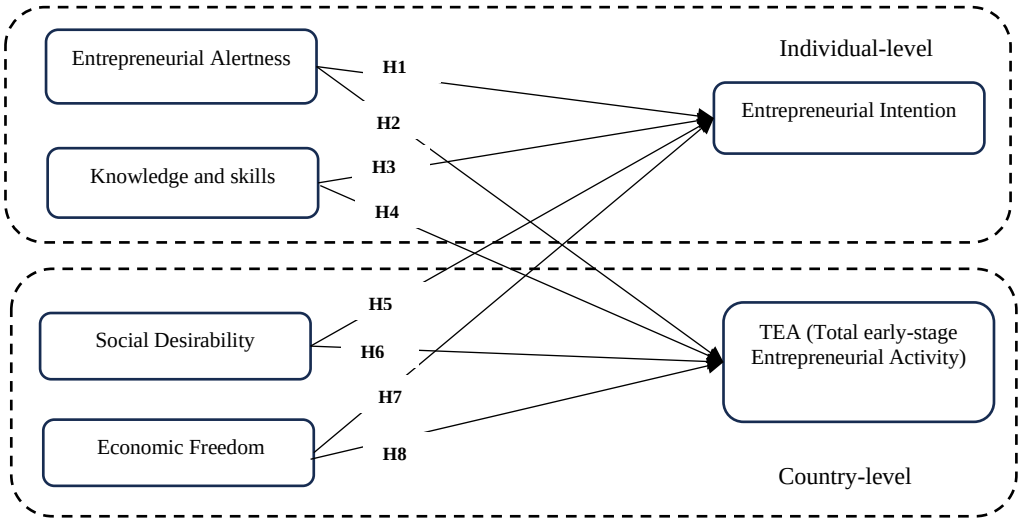


**Figure 1.** Theoretical model
**Source:** Authors

## 3. Methodology

### *3.1. Data Collection*

This study uses secondary data from the Global Entrepreneurship Monitor (GEM) and the Index of Economic Freedom (IEF). GEM, a leading global entrepreneurship research program, collects annual data through the Adult Population Survey, typically surveying at least 2,000 adults per country (Khefacha, Romdhane, & Haj Salem, 2024) and the National Experts' Survey, which provides insights into entrepreneurial framework conditions.GEM offers harmonized individual-level indicators such as entrepreneurial intention, alertness, and knowledge and skills, as well as country-level TEA measures. IEF evaluates 177 countries across key dimensions of economic freedom, including regulatory efficiency, rule of law, and market openness. The final panel dataset includes 26 countries (2015–2019), including Iran, enabling cross-country comparisons across diverse institutional environments relevant to the broader Eurasian context.

**Table 1.** Description of the outcome and conditions used in the study

| Description | Source |
|---|---|

| | | |
|---|---|---|
| EI | The percentage of adults aged 18 to 64 who say they expect to launch a new business, either by themselves or with others, within the next three years (Gohmann, 2012)(including self-employment) | GEM (2015-2019) |
| TEA | The proportion of the adult population starting or operating a new business, or the percentage of people aged 18 to 64 who are either nascent entrepreneurs or owner-managers of a new business (Yoon et al., 2018; Junaid, He, et al., 2020). | GEM (2015-2019) |
| Entrepreneurial Alertness | The proportion of adults aged 18 to 64 who say they would be willing to start a business in their hometown within the next six months | GEM (2015-2019) |
| Knowledge and Skills | Percentage of the 18−64 population who answer "yes" to the following question: Do you possess the expertise, experience, and knowledge needed to launch a new company? | GEM (2015-2019) |
| Social Desirability | Percentage of the 18−64 population who answer "yes" to the following statement: Most people in my country think that launching a new company is a great career choice. | GEM (2015-2019) |
| Economic Freedom | financial freedom, investment freedom, trade freedom, and business freedom. The average scores of these four items for each year are used to determine this measure at the national level , based on the average scores of these four items for each year (Meyer, Estrin, Bhaumik, & Peng, 2009). | IEF[2] (2015-2019) |

### *3.2. Measurement*

This study examines entrepreneurial intention and TEA as the dependent variables. Entrepreneurial intention reflects an individual's desire or inclination to engage in entrepreneurial activity (Bachmann, Rose, Maul, & Hölzle, 2024; Fini, Grimaldi, Marzocchi, & Sobrero, 2009; Sandroto, Ramawati, & Darmoyo, 2024). GEM measures this construct using 5- or 7-point Likert-scale items assessing respondents' likelihood of starting a business within a specified timeframe. Higher scores indicate stronger entrepreneurial intentions. TEA captures the prevalence of early-stage entrepreneurial activity and is measured as the percentage of adults aged 18–64 involved in nascent entrepreneurship or managing new businesses (Chen & Makki, 2024; Pham & Nguyen, 2024).GEM provides harmonized cross-national data for both indicators.

Independent variables include entrepreneurial alertness, knowledge and skills, social desirability, and economic freedom. Entrepreneurial alertness refers to individuals' perceived capability to identify business opportunities and is measured through self-reported Likert-scale items capturing behaviors such as recognizing trends, identifying market gaps, or noticing unmet needs (Bachmann et al., 2024), Knowledge and skills represent perceived entrepreneurial competence and are assessed through GEM indicators related to education, training, and prior experience,often combined into a composite index.

Social desirability reflects societal norms and cultural attitudes toward entrepreneurship (Díaz-Casero, Ferreira, Mogollón, & Raposo, 2012; Yasir, Xie, & Zhang, 2022).GEM measures this construct using validated items aligned with the Marlowe–Crowne Social Desirability Scalecapturing respondents' perceptions of entrepreneurship as a socially valued career choice. Economic freedom, obtained from the Index of Economic Freedom (IEF), represents the degree of economic liberty within a country (Choutagunta & Gutmann, 2024).The IEF composite index evaluates property rights, government intervention, regulatory efficiency, and market openness.

### *3.3. Data analysis*

Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed to validate the measurement and structural models (Ringle, Wende, & Will, 2005). PLS-SEM is suitable for non-normal data and diverse measurement scales (Chin, 1998). SmartPLS3 (Richter, Cepeda-Carrion, Roldán Salgueiro, & Ringle, 2016), was used to assess reliability through Cronbach's alpha and composite reliability (CR), and convergent validity through Average Variance Extracted (AVE). Discriminant validity was also examined. Structural model evaluation included collinearity diagnostics, coefficient of determination ($R^2$), predictive relevance ($Q^2$), and model fit indices such as SRMR and RMS_theta, along with the saturated model

### *3.4. Common Method Bias (CMB)*

Common Method Bias (CMB) arises when data for multiple constructs are collected using the same method, potentially inflating relationships. Given the combination of individual-level (e.g., alertness, knowledge and skills) and country-level (e.g., TEA, economic freedom) data, addressing CMB was essential. To mitigate bias, the study employed multiple data sources—survey-based GEM indicators and archival IEF data—reducing reliance on a single method (Choutagunta & Gutmann, 2024). Transparency regarding potential CMB and the steps taken to minimize it further strengthens the study's validity.

## 4. Results

### *4.1. Measurement Model*

Reliability and convergent validity of the measurement model were assessed using Cronbach's alpha (Cα), composite reliability (CR), and the average variance extracted (AVE) (Fornell & Larcker, 1981; Hair et al. 2011). Overall, the constructs demonstrated acceptable internal consistency. Cronbach's alpha values ranged from 0.855 to 0.9983 (economic freedom = 0.998; entrepreneurial alertness = 0.855; entrepreneurial intention = 0.9983; knowledge and skills = 0.886; social desirability = 0.871; TEA = 0.907). Composite reliability exceeded the recommended 0.70 threshold for economic freedom (CR = 0.999), entrepreneurial intention (CR = 0.986), knowledge and skills (CR = 0.919), social desirability (CR = 0.904), and TEA (CR = 0.931). Entrepreneurial alertness showed comparatively lower reliability (CR = 0.605), indicating weaker internal consistency than the other constructs.

Convergent validity was evaluated using AVE.According to established PLS-SEM guidelines, indicators with outer loadings below 0.40 are typically considered for removal; however, theoretical justification and content validity considerations may warrant their retention in specific research contexts, particularly when using secondary or macro-level indicators (Hair et al. 2017).Entrepreneurial intention (AVE = 0.935), TEA (AVE = 0.730), knowledge and skills (AVE = 0.660), social desirability (AVE = 0.659), and economic freedom (AVE = 0.994) met the 0.50 benchmark, supporting adequate convergent validity. In contrast, entrepreneurial alertness fell below the recommended threshold (AVE = 0.295), suggesting limited convergent validity for this construct.

Because the dataset is longitudinal and operationalized using annual country-level indicators (2015–2019), each indicator reflects a temporal observation of the same macro-level construct

rather than interchangeable reflective items measured within a single survey wave. Accordingly, year-specific indicators with low loadings were retained to preserve the longitudinal comparability of the construct and to capture meaningful year-to-year variation in entrepreneurial conditions. This choice prioritizes temporal integrity of the panel construct over purely cross-sectional measurement optimization and is consistent with the use of GEM and IEF annual indicators in panel-based entrepreneurship research.

**Table 2.** Reliability analysis

| | Loading | Ca | rho_A | CR | AVE |
|---|---|---|---|---|---|
| **Entrepreneurial Intention** | | 0.9983 | 0.986 | 0.986 | 0.935 |
| EI2015 | 0.925 | | | | |
| EI2016 | 0.987 | | | | |
| EI2017 | 0.979 | | | | |
| EI2018 | 0.979 | | | | |
| EI2019 | 0.964 | | | | |
| **TEA** | | 0.907 | 0.916 | 0.931 | 0.730 |
| TEA2015 | 0.827 | | | | |
| TEA2016 | 0.899 | | | | |
| TEA2017 | 0.882 | | | | |
| TEA2018 | 0.896 | | | | |
| TEA2019 | 0.758 | | | | |
| **Entrepreneurial Alertness** | | 0.855 | 0.197 | 0.605 | 0.295 |
| EA2015 | 0.549 | | | | |
| EA2016 | 0.559 | | | | |
| EA2017 | 0.206 | | | | |
| EA2018 | 0.112 | | | | |
| EA2019 | 0.897 | | | | |
| **Knowledge and Skills** | | 0.886 | 0.894 | 0.919 | 0.660 |
| KS2015 | 0.907 | | | | |
| KS2016 | 0.895 | | | | |
| KS2017 | 0.919 | | | | |
| KS2018 | 0.813 | | | | |
| KS2019 | 0.603 | | | | |
| **Social Desirability** | | 0.871 | 0.889 | 0.904 | 0.659 |
| (SD) 2015 | 0.899 | | | | |
| (SD) 2016 | 0.961 | | | | |
| (SD) 2017 | 0.870 | | | | |
| (SD) 2018 | 0.676 | | | | |
| (SD) 2019 | 0.593 | | | | |
| **Economic Freedom** | | 0.998 | 0.999 | 0.999 | 0.994 |
| EF2015 | 0.995 | | | | |
| EF2016 | 0.997 | | | | |
| EF2017 | 0.997 | | | | |
| EF2018 | 0.997 | | | | |
| EF2019 | 0.998 | | | | |

**Note:** Entrepreneurial Intention (EI) and Total Early-Stage Entrepreneurial Activity (TEA), Entrepreneurial Alertness (EA), Knowledge and Skills (KS), Social Desirability (SD), and Economic Freedom (EF).
rms Theta=0.316; SRMR: Saturated model= 0.145, and Estimated Model= 0.147
R Square: Entrepreneurial Intention= 0.714, and TEA= 0.672
R Square Adjusted: Entrepreneurial Intention= 0.659, and TEA= 0.609
$Q^2$ (=1-SSE/SSO): Entrepreneurial Intention= 0.588, and TEA= 0.515

The HTMT ratio is used to assess discriminant validity between latent constructs. Each value represents the HTMT estimate for a pair of constructs and is compared against the recommended threshold of 0.85 (Fornell & Larcker, 1981). Ratios below this cutoff indicate that constructs are empirically distinct, whereas values above it suggest potential discriminant validity problems. In this study, all HTMT ratios fall below 0.85, confirming that the constructs are sufficiently differentiated and that discriminant validity is established.

**Table 3.** Heterotrait-Monotrait Ratio (HTMT) and Fornell and Larcker's discriminant validity

| **Fornell and Larcker** | **Entrepreneurial Alertness** | **Economic Freedom** | **Entrepreneurial Intention** | **Social Desirability** | **TEA** | **Knowledge and Skills** |
|---|---|---|---|---|---|---|
| Economic Freedom | **0543** | | | | | |
| Entrepreneurial Alertness | -0.424 | **0.997** | | | | |
| Entrepreneurial Intention | 0.535 | -0.605 | **0.967** | | | |
| Knowledge and Skills | 0.278 | -0.403 | 0.615 | **0.812** | | |
| Social Desirability | 0.422 | -0.489 | 0.604 | 0.061 | **0.854** | |
| TEA | 0.073 | -0.223 | 0.363 | 0.060 | 0.416 | **0.836** |
| **HTMT** | | | | | | |
| Entrepreneurial Alertness | | | | | | |
| Economic Freedom | 0.447 | | | | | |
| Entrepreneurial Intention | 0.304 | 0.610 | | | | |
| Social Desirability | 0.310 | 0.358 | 0.589 | | | |
| TEA | 0.247 | 0.516 | 0.638 | 0.321 | | |
| Knowledge and Skills | 0.364 | 0.209 | 0.354 | 0.310 | 0.541 | |

### *4.2. Structural Model*

The structural model was assessed using $R^2$ and overall model fit indices. Consistent with recommended benchmarks, $R^2$ values of 0.75, 0.50, and 0.25 indicate substantial, moderate, and weak explanatory power, respectively (Hair et al., 2011). The model explains 66.1% of the variance in entrepreneurial intention and 42.8% of the variance in TEA, indicating moderate to substantial explanatory power.The goodness-of-fit (GoF) index, interpreted using thresholds of 0.10, 0.25, and 0.30 for small, medium, and large effects, respectively (Wetzels et al., 2009),reached 0.579, indicating a substantial overall effect size. Although the minimum AVE (0.295) is below the ideal benchmark of 0.50 (Fornell & Larcker, 1981), the model retains acceptable explanatory power overall.

### *4.3. Model estimation using partial least squares Partial*

Partial least squares (PLS) is well suited for estimating relationships among latent variables and their indicators, particularly when the objective is maximizing explained variance rather than reproducing the empirical covariance matrix (Fornell & Larcker, 1981; Hair et al., 2011; Ringle et al., 2005). Unlike covariance-based SEM, PLS does not require large samples (Dijkstra, 2009), or multivariate normality (Chin, 2001). It is also advantageous when predictors are highly correlated or when the number of predictors exceeds the number of observations (Cassel et al., 1999). Monte Carlo simulations further demonstrate PLS's robustness to indicator skewness, multicollinearity, and structural misspecification, with latent variable scores closely reflecting true values (Cassel et al., 1999). As a nonparametric estimation technique, PLS iteratively combines principal components analysis to link indicators with constructs and path analysis to model structural relationships (Wold & Bertholet, 1982).

### *4.4. Hypotheses Testing*

The results indicate that entrepreneurial alertness significantly predicts both entrepreneurial intention ($\beta = 0.293$, $t = 16.767$, $p = 0.004$) and TEA ($\beta = 0.295$, $t = 4.695$, $p = 0.042$), supporting H1 and H2. Knowledge and skills also exert significant effects on entrepreneurial intention ($\beta = 0.259$, $t = 21.862$, $p = 0.002$) and TEA ($\beta = 0.324$, $t = 12.663$, $p = 0.006$), confirming H3 and H4. Social desirability positively influences entrepreneurial intention ($\beta = 0.415$, $t = 6.027$, $p =$

0.026), supporting H5. Furthermore, its effect on TEA is negative and significant (β = -0.189, t = 16.884, p = 0.003), supporting H6. Economic freedom does not significantly affect entrepreneurial intention (β = -0.255, t = 3.019, p = 0.094), leading to the rejection of H7, while its effect on TEA is negative and significant (β = -0.368, t = 5.642, p = 0.030), supporting H8. Overall, seven hypotheses are supported, whereas H7 is not.

| hypotheses | | Original Sample (β) | T Statistics (\|O/STDEV\|) | P Values | Result |
|---|---|---|---|---|---|
| H1 | Entrepreneurial Alertness -> Intention | 0.293 | 16.767 | 0.004 | Supported |
| H2 | Entrepreneurial Alertness -> TEA | 0.295 | 4.695 | 0.042 | Supported |
| H3 | Knowledge And Skills -> Intention | 0.259 | 21.862 | 0.002 | Supported |
| H4 | Knowledge And Skills-> TEA | 0.324 | 12.663 | 0.006 | Supported |
| H5 | Social Desirability -> Intention | 0.415 | 6.027 | 0.026 | Supported |
| H6 | Social Desirability -> TEA | -0.189 | 16.884 | 0.003 | Supported (negative) |
| H7 | Economic Freedom -> Intention | -0.255 | 3.019 | 0.094 | Not supported |
| H8 | Economic Freedom -> TEA | -0.368 | 5.642 | 0.030 | Supported (negative |

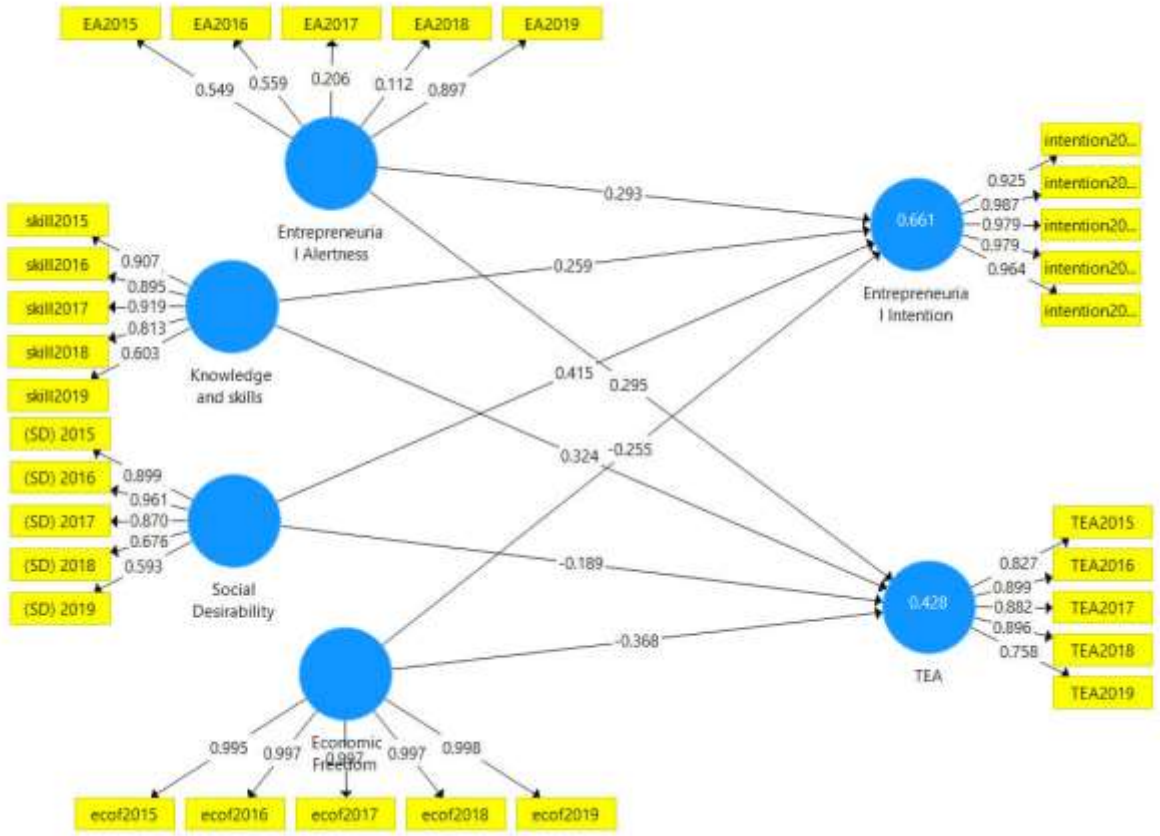


**Figure 2.** Individual-level and country-level factors on the different phases of the entrepreneurial process

## 5. Discussion and Conclusion

### *5.1. Main Finding*

These findings are particularly meaningful within the context of Iran and structurally comparable Central Eurasian economies, where institutional volatility, transitional governance arrangements, and socio-cultural norms shape entrepreneurial opportunity structures in distinctive ways. Examining the individual-level determinants of entrepreneurial intention and

total early-stage entrepreneurial activity (TEA), the results provide robust support for the positive effect of entrepreneurial alertness on both entrepreneurial intention (H1) and TEA (H2).

This suggests that individuals with higher levels of entrepreneurial alertness are more likely not only to develop the intention to start a business but also to actively engage in early-stage entrepreneurial activity (Araujo et al., 2023; Shafiee & Amiri, 2024). The result is consistent with prior research emphasizing that alert individuals are better positioned to identify, evaluate, and pursue entrepreneurial opportunities (Araujo et al., 2023; Shepherd & Majchrzak, 2022; Stam & Simonsson, 2023). In this sense, entrepreneurial alertness operates as both a cognitive precursor to entrepreneurial intention and a behavioral catalyst for entrepreneurial engagement.

A similarly consistent pattern emerges with respect to entrepreneurial knowledge and skills. The findings confirm that knowledge and skills exert significant positive effects on entrepreneurial intention (H3) and TEA (H4). Individuals who possess stronger entrepreneurial competencies appear more capable of forming entrepreneurial aspirations and translating them into concrete entrepreneurial action. This result aligns with earlier studies highlighting the central role of knowledge and skills in fostering entrepreneurial behavior (Nabi et al., 2021; Urban, 2020). Moreover, greater competency enhances individuals' ability to recognize, evaluate, and exploit entrepreneurial opportunities, thereby increasing the likelihood of participation in TEA (Obschonka et al., 2023).

Regarding normative influences, the analysis indicates that social desirability has a significant positive effect on entrepreneurial intention (H5). Individuals who perceive entrepreneurship as socially valued and culturally legitimate are more inclined to express entrepreneurial aspirations. This finding corroborates prior research demonstrating that social norms and perceived legitimacy meaningfully shape entrepreneurial cognition and intention formation (Krieger et al., 2021; Obschonka et al., 2023; van Gelderen, 2024). Favorable social evaluations of entrepreneurship appear to strengthen motivational commitment toward entrepreneurial careers.

However, social desirability has a significant negative effect on TEA (Social Desirability → TEA) (H6). This finding suggests that although social approval may strengthen entrepreneurial intention, it does not necessarily translate into actual early-stage entrepreneurial activity. In fact, stronger social expectations may discourage individuals from engaging in risky entrepreneurial behavior.This distinction underscores the importance of differentiating between entrepreneurial intention and realized entrepreneurial activity in empirical research. Social desirability alone may be insufficient to propel individuals from aspiration to implementation, particularly in environments characterized by structural and institutional constraints.

At the country level, the results reveal that economic freedom has a significant positive effect on entrepreneurial intention (H7). Individuals operating in contexts with higher levels of economic freedom are more likely to form entrepreneurial intentions. This finding is consistent with prior studies documenting the positive association between economic freedom and entrepreneurial engagement (Liñán & Fayolle, 2015; Stephan, 2020). A favorable economic

environmentcharacterized by lower levels of government intervention and fewer regulatory barriers—appears to stimulate entrepreneurial aspirations.

Nevertheless, the impact of economic freedom on TEA (H8) was not supported. While economic freedom may encourage entrepreneurial intention, it does not automatically lead to higher levels of early-stage entrepreneurial activity. This finding highlights the complex and multi-layered nature of the entrepreneurial process and suggests that economic freedom alone may not be sufficient to generate a vibrant entrepreneurial ecosystem. The result contrasts with several previous studies reporting a direct positive relationship between economic freedom and entrepreneurial activity (Bennett, 2021; Niels Bosma et al., 2018; Stam & Simonsson, 2023; Telaumbanua et al., 2024). Similarly, the absence of a direct country-level effect on TEA echoes arguments emphasizing that entrepreneurial behavior depends not only on formal institutional arrangements but also on deeper structural and contextual conditions (Foss & Klein, 2020; Obschonka & Fisch, 2018; Wyrwich, 2020).

In countries such as Iran and several Eurasian transition economies, economic freedom likely interacts with regulatory uncertainty, informal institutional dynamics, and geopolitical constraints. These contextual complexities may explain why higher levels of economic freedom do not automatically translate into greater participation in TEA.

### *5.2. Conclusions*

The results in this study underscore the importance of examining entrepreneurship within institutional environments characterized by transition, sanctions, and evolving market structures—conditions that are central to understanding entrepreneurial behavior in Iran and the broader Eurasian region. The findings confirm the significant role of individual-level factors across different phases of the entrepreneurial process.

Specifically, entrepreneurial alertness has a significant positive effect on entrepreneurial intention (Entrepreneurial Alertness → Intention) and on TEA (Entrepreneurial Alertness → TEA). This suggests that individuals who are more alert to entrepreneurial opportunities are more likely both to form the intention to start a business and to engage in early-stage entrepreneurial activity. This result reinforces the importance of cultivating entrepreneurial awareness and an opportunity-oriented mindset through targeted training programs, workshops, and exposure to real-world entrepreneurial experiences (Gill, Bencheva, Karayel, & Usman, 2021). It also implies that policymakers and educators should prioritize initiatives that strengthen opportunity recognition and support entrepreneurial action (Satar et al., 2024), alongside the development of ecosystems that facilitate entrepreneurial initiatives (Cucino et al., 2024).

Similarly, knowledge and skills have a significant positive effect on entrepreneurial intention (Knowledge And Skills → Intention) and on TEA (Knowledge And Skills → TEA). Individuals with stronger entrepreneurial competencies are more likely to view entrepreneurship as a viable career path (Olutuase, Brijlal, & Yan, 2023). Entrepreneurial education and training therefore play a crucial role in developing these competencies (Satar et al., 2024). In addition, knowledge and skills support entrepreneurial action by strengthening capabilities such as business

planning, marketing, and financial management. Continuous learning and skill development thus remain essential for sustaining entrepreneurial engagement.

With respect to normative influences, social desirability has a significant positive effect on entrepreneurial intention (Social Desirability → Intention). This indicates that favorable social perceptions of entrepreneurship, along with cultural approval, encourage individuals to consider entrepreneurship as an attractive career choice (Krueger Jr et al., 2000; Shapero & Sokol, 1982; Tan et al., 2021). However, social desirability has a significant negative effect on TEA (Social Desirability→ TEA). This finding suggests that while social approval may strengthen entrepreneurial intention, it does not necessarily translate into actual early-stage entrepreneurial activity. In fact, socially desirable perceptions may remain at the level of aspiration without effectively converting into concrete entrepreneurial action. This highlights the need for further research on the complex and possibly ambivalent role of social influence in entrepreneurial behavior.

At the country level, economic freedom has a non-significant negative effect on entrepreneurial intention (Economic Freedom → Intention). This implies that, in this context, economic freedom does not meaningfully shape individuals' intentions to become entrepreneurs. By contrast, economic freedom has a significant negative effect on TEA (Economic Freedom→ TEA). This result suggests that greater economic freedom, at least in the setting studied, is associated with lower levels of early-stage entrepreneurial activity. Such a pattern may reflect the possibility that economic freedom alone is insufficient to stimulate entrepreneurship in institutional environments where regulatory uncertainty, market instability, informal institutions, and geopolitical constraints continue to shape entrepreneurial decisions. Therefore, the relationship between economic freedom and actual entrepreneurial behavior appears to be more complex than a simple positive linear association. This finding is also inconsistent with some prior studies that report a positive association between economic freedom and entrepreneurship (Doan, 2024; Nyström, 2008; Sobel, 2008).

Overall, the findings suggest that entrepreneurship in Iran and similar Eurasian economies cannot be understood solely through broad institutional indicators. Instead, entrepreneurial behavior is shaped by the combined effects of individual competencies, opportunity recognition, social perceptions, and the specific institutional context in which entrepreneurs operate. Accordingly, policymakers should adopt a more holistic approach that not only improves the institutional environment but also strengthens individual capabilities and addresses the barriers that prevent entrepreneurial intention from translating into entrepreneurial action.

### *5.3. Theoretical contributions*

This study offers several important theoretical contributions by extending entrepreneurship research into transitional, sanction-affected, and institutionally volatile environments. By situating the analysis within Iran and comparable Eurasian contexts, the study advances entrepreneurship theory beyond Western-centric samples and demonstrates how entrepreneurial mechanisms operate under institutional constraints. In doing so, it illustrates how micro-level intentions interact with macro-level institutional conditions, thereby bridging

a critical gap between individual- and country-level determinants of entrepreneurial behavior (Omri, Omri, & Abbassi, 2024). This integrated perspective provides a more comprehensive understanding of entrepreneurial processes in transitional economies and offers a foundation for designing context-sensitive interventions.

A key contribution lies in showing that entrepreneurial alertness has a significant positive influence on both entrepreneurial intention and TEA, reinforcing the centrality of cognitive processes in entrepreneurial decision-making (Araujo et al., 2023; Shafiee & Amiri, 2024). The findings also highlight the need for further research on how entrepreneurial alertness develops and how it can be cultivated under uncertainty. In addition, the study demonstrates that knowledge and skills positively affect both entrepreneurial intention and TEA, underscoring the role of human capital in translating entrepreneurial motivation into early-stage action. Understanding the mechanisms through which competencies shape entrepreneurial outcomes remains an important direction for future research (Singh et al., 2024).

Importantly, the study reports a nuanced normative effect: social desirability significantly increases entrepreneurial intention but does not translate into TEA. This pattern raises theoretical questions about how societal norms shape aspirations versus actual entrepreneurial behavior. Specifically, the results suggest that cultural pressures may strengthen entrepreneurial intent without necessarily overcoming the barriers that convert intention into early-stage activity, warranting deeper examination of contextual variation and the social dynamics underlying this mismatch. Finally, the results indicate that economic freedom does not have a significant effect on entrepreneurial intention. However, economic freedom shows a significant negative relationship with TEA, suggesting that institutional conditions alone may not directly stimulate entrepreneurial activity in transitional and sanction-affected environments(Liñán & Fayolle, 2015; Stephan, 2020). However, the absence of a positive association with TEA—and the more complex relationship observed at the country level—suggests that institutional uncertainty, informal norms, and geopolitical constraints may weaken the translation of economic freedom into entrepreneurial activity in transitional economies. Overall, the study enriches the theoretical foundation of entrepreneurship by clarifying how individual attributes and country-level conditions jointly shape entrepreneurial outcomes.

### *5.4. Practical implications*

The findings of this study offer several implications for researchers and policymakers. First, the results highlight the central role of individual-level factors—particularly entrepreneurial alertness and knowledge and skills—in shaping the entrepreneurial process (Araujo et al., 2023). This suggests that entrepreneurship promotion efforts should prioritize strengthening these capabilities through targeted education and training programs (Singh et al., 2024). Second, because social desirability influences entrepreneurial intention, policymakers can encourage entrepreneurial aspirations by promoting entrepreneurship as a socially valued career path (Ghatak et al., 2023; Tan et al., 2021). At the same time, the results suggest that broader institutional conditions, including economic freedom, may shape entrepreneurial activity in more complex ways rather than directly fostering entrepreneurial intention. Third, the findings reveal that country-level influences on TEA are more complex than might be assumed from

intention-based models, underscoring the need for future research that examines additional institutional and contextual determinants and their interactions with individual-level characteristics.

These insights can guide the design of more effective entrepreneurship support strategies. Enhancing entrepreneurial alertness through training programs (Otache, Edopkolor, Sani, & Umar, 2024)may strengthen individuals' ability to identify and act on opportunities.In addition, while economic freedom may shape the broader institutional environment, the results of this study show that it does not significantly influence entrepreneurial intention in the examined context. Policymakers should therefore pay attention to mechanisms that enable intention to become early-stage activity—particularly in environments where structural constraints weaken the aspiration–action link.

Practical training modules should therefore emphasize essential entrepreneurial capabilities such as marketing, financial management (Amjad, Abdul Rani, & Sa'atar, 2020),business planning, and networking (Anwar & Ali Shah, 2020). Investors and venture capitalists may also use these insights to assess entrepreneurial ecosystems and evaluate risk conditions across countries (Anwar & Ali Shah, 2020). For Iran and other Eurasian economies, improving institutional reliability, reducing regulatory volatility, and strengthening access to entrepreneurial support systems may be critical to translating entrepreneurial intention into early-stage entrepreneurship—especially where contextual barriers limit the conversion of aspirations into action.

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