

Personal Entrepreneurial Skills from the Perspective of Leadership and Innovation

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HOW TO CITE:

Setyono Djuandi Darmono, Adelina Mariani Simatupang (2026). Personal Entrepreneurial Skills from the Perspective of Leadership and Innovation. International Journal of Special Education, 41(25s), 409 - 426

ABSTRACT:

This study analyzes the concept and characteristics of personal entrepreneurial skills from the perspectives of leadership and innovation, and explains their role in fostering adaptive and innovative leadership within organizations. Employing a qualitative library research method, data were collected from relevant scientific sources including national and international journal articles, academic books, research reports, and publications from international institutions. Descriptive qualitative analysis was conducted through identifying, classifying, and synthesizing key concepts from the selected literature. The results reveal that personal entrepreneurial skills encompass self-control, discipline, creativity, risk management, perseverance, networking ability, and strategic thinking. From a leadership perspective, these skills manifest as entrepreneurial leadership characterized by strategic vision, proactive behavior, team motivation, and courage to seize innovative opportunities. From an innovation perspective, they encourage innovative thinking and strengthen creative self-efficacy, supporting innovative work behavior. The study concludes that integrating personal entrepreneurial skills with entrepreneurial leadership enables individuals and organizations to transform ideas into concrete actions that generate added value. The novelty lies in systematically synthesizing personal entrepreneurial skills as a dual-framework bridging leadership and innovation, offering an integrated perspective rarely addressed in existing literature. Practically, the findings suggest that organizations should prioritize developing these skills to promote sustainable innovation and enhance competitiveness. This study contributes to entrepreneurship and leadership literature by providing a conceptual foundation for understanding how personal entrepreneurial skills drive adaptive and innovative leadership in response to global economic and digital transformations.

Keywords: Creative Self-Efficacy; Entrepreneurial Leadership and Innovation; Innovative Thinking; Personal Entrepreneurial Skills

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Introduction

Rapid changes in the global economy require individuals to develop adaptive capabilities in responding to evolving labor markets and technological advancements. For many years, higher education institutions have largely focused on traditional forms of education that prepare graduates to enter the workforce primarily as job seekers. However, many university graduates continue to face difficulties in securing employment due to insufficient personal, social, and professional skills required in the contemporary workplace. This situation indicates that success in professional life is not determined solely by academic knowledge but also by individuals' abilities to manage themselves, communicate effectively, and adapt to changing work environments (García-Pérez et al., 2021; Harteis & Goller, 2014).

Amid these challenges, the development of entrepreneurial skills has become increasingly important for higher education graduates. These competencies are not only relevant for individuals who intend to establish their own businesses but also for those working across various sectors of industry and organizational settings. Entrepreneurial capabilities enable individuals to think creatively, take initiative, and identify opportunities within their professional environments. Consequently, entrepreneurial skills represent an important factor in strengthening graduates' competitiveness in an increasingly demanding labor market.

Several studies have demonstrated that entrepreneurship education influences individuals' intentions to pursue entrepreneurial careers. Empirical data indicate that nearly twice as many individuals who consider entrepreneurship a viable career option within the next five years have previously attended entrepreneurship courses (34%) compared with those who have not participated in such education (18%). These findings suggest that entrepreneurship education and the development of entrepreneurial competencies play a significant role in shaping individuals' mindsets and readiness to engage in entrepreneurial activities.

Therefore, strengthening entrepreneurial competencies within higher education institutions has become an important strategy for fostering the emergence of new generations of entrepreneurs. In today's professional landscape, most professionals require entrepreneurial capabilities in order to succeed in their careers. Such skills are applicable across different types of occupations and industrial sectors. The development of entrepreneurial skills often involves a range of competencies, including business management, communication, leadership, and the ability to build effective teams. Possessing these competencies enables individuals not only to create new business opportunities but also to enhance the performance of the organizations in which they work.

Conceptually, competence can be defined as the ability to operationalize knowledge, attitudes, and skills in real-world situations in order to achieve specific outcomes (Pereira et al., 2023). This concept emphasizes that competent individuals do not merely possess theoretical knowledge but are also capable of applying that knowledge analytically, creatively, and practically across diverse contexts. Thus, competence reflects an individual's capacity to integrate multiple forms of knowledge and skills in solving problems and achieving desired objectives.

From an entrepreneurial perspective, entrepreneurial skills are understood as a combination of knowledge, attitudes, and capabilities that enable individuals to develop innovative projects, products, or services that generate value for both society and organizations (Jardim, 2019). These skills allow individuals to identify market needs, design relevant solutions, and transform ideas into tangible business opportunities. Moreover, entrepreneurial skills help individuals navigate uncertainty and respond to the continuously evolving dynamics of modern markets.

The OECD categorizes entrepreneurial skills into three primary domains: technical skills, business management skills, and personal entrepreneurial skills (Deakins et al., 2016; Pennetta et al., 2024;

Sousa et al., 2024). Technical skills include communication abilities, environmental scanning, problem-solving, and the use of technologies that support business activities. Business management skills involve managerial competencies such as marketing, financial management, decision-making, negotiation, and human resource management. In contrast, personal entrepreneurial skills refer to individual-level capabilities that form the foundation for initiating and developing entrepreneurial activities.

Personal entrepreneurial skills encompass various personal attributes such as self-control, discipline, risk management, innovation, perseverance, leadership, change management, networking ability, and strategic thinking. These competencies enable individuals to manage the challenges that arise during business development as well as organizational management processes. Individuals who possess such skills are generally more confident in dealing with business uncertainty and are better equipped to make effective decisions in complex situations.

From the perspectives of leadership and innovation, personal entrepreneurial skills extend beyond the ability to manage business activities. They also reflect an individual's capacity to lead change and stimulate innovation through creative thinking, calculated risk-taking, and the ability to guide teams toward sustainable growth. These competencies represent a synthesis of entrepreneurial mindset and dynamic leadership style, in which leaders function as facilitators of innovation, motivators who inspire collective effort, and risk managers capable of making strategic decisions in uncertain conditions. As a result, organizations can develop environments that are more adaptive, innovative, and capable of transforming challenges into value-creating opportunities.

In the rapidly changing landscape of modern business, individuals require additional competencies embedded within personal entrepreneurial skills. Those who possess such skills tend to respond more proactively to environmental changes and are able to transform

emerging challenges into new business opportunities. Furthermore, personal entrepreneurial skills are closely associated with individuals' abilities to identify opportunities, manage resources effectively, and take calculated risks to create new value within organizations. These competencies enable individuals to maximize existing potential and develop innovative strategies to address competitive business environments. In practice, individuals with strong entrepreneurial competencies do not focus solely on short-term goals but are also capable of designing sustainable long-term strategies for organizational development.

Within entrepreneurship literature, this concept is commonly referred to as entrepreneurial leadership. Under this approach, leaders are not merely responsible for managing organizational operations but also act as agents of change who stimulate innovation and organizational growth. Leaders with an entrepreneurial orientation are able to formulate inspiring visions, encourage creativity among team members, and build organizational cultures that are open to change and innovation. Consequently, entrepreneurial leadership has become an important approach for enhancing organizational performance in an era of global competition (Dwi Widayani et al., 2020; Paudel, 2019).

Previous studies have examined the relationship between entrepreneurship and leadership in various contexts. For instance, research conducted by (Macpherson, 2025) emphasizes the importance of developing an entrepreneurial spirit within educational leadership grounded in religious, philosophical, psychological, and sociological values. Their findings suggest that leadership characterized by entrepreneurial qualities can bridge the gap between academic knowledge and market needs while fostering the development of independent individuals with strong managerial capabilities. Meanwhile, (Pauceanu et al., 2021) highlights the significance of entrepreneurial leadership as a foundation for successful leadership in shaping the character and potential of individuals within organizations.

Despite these contributions, studies that explicitly integrate the concepts of personal entrepreneurial skills, entrepreneurial leadership, and innovation within a unified conceptual framework remain relatively limited. Moreover, most existing studies focus primarily on educational leadership or general organizational leadership without deeply examining how personal entrepreneurial skills may serve as a foundation for fostering innovative leadership in modern organizations. Addressing this gap, the present study contributes to the literature by developing a conceptual perspective that integrates personal entrepreneurial skills, entrepreneurial leadership, and innovative work behavior within a single analytical framework. In particular, this study emphasizes that personal entrepreneurial skills should not be viewed solely as individual capabilities for business development but also as a foundation for entrepreneurial leadership that drives innovation within organizations.

Based on this discussion, it can be understood that personal entrepreneurial skills play a crucial role in shaping leadership that is both innovative and adaptive to change. These competencies not only support individual success in entrepreneurial endeavors but also contribute to the creation of organizations that are more creative, innovative, and sustainable. In line with this perspective, this study aims to analyze the concept and characteristics of personal entrepreneurial skills that support individual success in entrepreneurial activities as well as in organizational management. In addition, this study seeks to identify key components of personal entrepreneurial competencies including self-control, discipline, risk management, innovation, perseverance, leadership, change management, networking capability, and strategic thinking that are widely discussed in entrepreneurship literature.

2. Methodology

This study adopts a qualitative approach using a library research method to examine the concept of personal entrepreneurial skills in relation to leadership and innovation (Harrison et al., 2018; Pauceanu et al., 2021). The research data were

obtained from various relevant academic sources, including national and international journal articles, academic books, research reports, and publications from international institutions that discuss entrepreneurship and competency development (Mitchelmore & Rowley, 2010; Terjesen et al., 2016). The literature search was conducted systematically through several academic databases, such as Google Scholar, Scopus, and national journal portals, using keywords including entrepreneurial skills, personal entrepreneurial skills, entrepreneurial leadership, innovation leadership, and entrepreneurship competencies (Pauceanu et al., 2021; Pennetta et al., 2024). The selected literature consisted of publications directly related to the research topic and providing theoretical foundations for understanding personal entrepreneurial skills.

The collected data were analyzed using a descriptive qualitative analysis technique. The analysis process involved identifying, categorizing, and interpreting various concepts and perspectives presented in the selected literature (Pierce, 2025). The findings from different sources were then compared to identify patterns, similarities, and differences in scholars' views regarding personal entrepreneurial skills from the perspectives of leadership and innovation. In the final stage, the analysis synthesized the key ideas and findings from previous studies to develop a more systematic conceptual understanding of the role of personal entrepreneurial skills in supporting innovative leadership and organizational development.

3. Results and Discussion

Global developments across various sectors indicate that personal entrepreneurial skills (ES) are becoming increasingly important in addressing challenges in education, social development, and employment. These challenges continue to be observed in many countries, particularly in regions that still experience limitations in areas such as education, health, democratic governance, and employment opportunities. Such conditions require individuals to possess not only technical expertise

but also personal competencies that enable them to adapt to change and generate new opportunities. Consequently, the development of personal entrepreneurial skills has become increasingly relevant in equipping individuals to navigate the complexities of a dynamic global environment.

In the educational context, the demand for highly qualified human resources continues to grow, both within society at large and among organizational leaders. High-quality learning processes whether during early education or throughout lifelong learning play a crucial role in promoting innovation and social transformation. However, traditional education systems often rely on standardized teaching approaches that fail to fully accommodate the diverse interests, talents, and potential of individuals (Kinshuk et al., 2016; van de Werfhorst, 2014). Educational models that emphasize standardization are therefore considered less compatible with the demands of the modern era, which requires creativity, innovation, and adaptability. Strengthening personal entrepreneurial skills can help individuals develop their potential more effectively and contribute meaningfully to innovation processes.

From a social perspective, development that does not emphasize individual potential and meritocratic principles may generate various social problems, including poverty, social inequality, and increasing crime rates. These issues may be further aggravated by corruption and the lack of transparency within institutions. In such circumstances, the development of personal entrepreneurial skills becomes essential because it encourages the emergence of individuals who demonstrate initiative, responsibility, and the capacity to create innovative solutions to social challenges. Therefore, personal entrepreneurial skills contribute not only to individual success but also to more sustainable social development (Farooq, 2018).

These social challenges are closely linked to issues in the labor market. High unemployment rates in many countries indicate that not all graduates are

able to secure employment in the formal job market (Graham et al., 2019). Under such conditions, entrepreneurial skills become increasingly important, as they enable individuals to create employment opportunities independently and pursue professional careers in a more autonomous manner. Furthermore, the growing phenomenon of skilled labor migration to countries offering better opportunities highlights the importance of developing competencies that enhance individuals' competitiveness in the global labor market.

On the other hand, the tendency among some members of society to prefer stable occupations such as employment in the public sector may limit the growth of innovation and entrepreneurial initiatives. For this reason, entrepreneurship education plays a critical role in cultivating proactive individuals capable of designing professional projects that respond to societal needs and opportunities. Research also suggests that regions with low levels of entrepreneurial activity tend to experience higher levels of poverty. This finding further emphasizes that strengthening personal entrepreneurial skills can serve as an important strategy for improving economic welfare within communities (Rahmawati, 2025).

Technological advancement and digital transformation represent another factor that reinforces the relevance of personal entrepreneurial skills in the contemporary era. Progress in information technology has transformed patterns of communication, organizational practices, and business models within society (Veit et al., 2014). In recent years, the emergence of artificial intelligence (AI), big data analytics, and the digital economy has created new opportunities for individuals and organizations to develop technology-driven innovations. These developments have encouraged the emergence of the concept of innovation-driven entrepreneurship, which emphasizes value creation through technological innovation, digital solutions, and the use of knowledge as a primary resource for achieving competitive advantage.

Within the modern workplace, professional success is no longer determined solely by technical expertise. Instead, individuals are expected to demonstrate initiative, leadership capability, and the ability to develop innovative solutions. Professionals must be able to collaborate effectively, manage resources efficiently, and design products or services that generate added value. The ability to transform ideas into concrete action lies at the core of personal entrepreneurial skills. Ultimately, these capabilities are manifested through entrepreneurial leadership, which plays a crucial role in fostering sustainable innovation within organizations.

Leadership Perspective (Entrepreneurial Leadership)

From a leadership perspective, entrepreneurial skills are not limited to an individual's ability to identify and create business opportunities. They also involve the capacity to guide and influence others in pursuing an innovative vision and challenging established ways of thinking. This perspective emphasizes that leaders who possess entrepreneurial capabilities are able to drive change, create new value, and inspire members of the organization to actively participate in innovation processes. Consequently, personal entrepreneurial skills should not be viewed solely as individual competencies, but also as a foundation for building visionary leadership that is adaptive to the dynamic nature of contemporary business environments.

The concept of entrepreneurial leadership (EL) represents a leadership approach that integrates entrepreneurial characteristics with leadership capabilities. This approach combines the ability to recognize opportunities, develop innovation, and guide organizations in navigating uncertainty and change. Leaders with an entrepreneurial orientation do not merely function as organizational managers but also act as agents of transformation who stimulate creativity and demonstrate courage in making strategic decisions. Furthermore, entrepreneurial leadership emphasizes the leader's ability to create, develop, and manage business activities

through innovative and opportunity-oriented approaches. Leaders with these characteristics are willing to take calculated risks and are capable of leveraging emerging opportunities within the business environment. In addition, entrepreneurial leadership contributes to the development of organizational cultures that are open to change, thereby encouraging organizational members to think creatively and contribute to innovation.

In practice, leaders who possess an entrepreneurial mindset do not focus solely on short-term operational management. Instead, they maintain a long-term vision oriented toward organizational growth and development. This vision serves as a basis for formulating strategies that enhance organizational competitiveness while expanding future business opportunities. Entrepreneurial leadership is also closely associated with a leader's ability to motivate and empower team members. Leaders with entrepreneurial competencies are able to create a work environment that encourages collaboration, creativity, and the courage to express new ideas.

Characteristics of Entrepreneurial Leadership

One of the core characteristics of entrepreneurial leadership is strategic vision, defined as a leader's ability to identify future opportunities while guiding the organization in utilizing them effectively. Visionary leaders do not merely determine the direction of an organization; they also design strategic pathways to achieve long-term objectives. This capability requires predictive, anticipatory, and systematic thinking, as well as the ability to view organizational challenges in a comprehensive and integrated manner. Visionary leadership reflects the ability to formulate and communicate a compelling and realistic picture of the organization's future, thereby mobilizing organizational members toward shared goals (M. Taylor et al., 2014). In a broader context, visionary and innovative leadership plays a crucial role in enabling organizations to survive and grow in rapidly changing environments. Leaders are also expected to demonstrate social, political, and

statesmanship capabilities in formulating policies that benefit both organizations and society (Carter & Greer, 2013; Maak et al., 2016).

From an entrepreneurial perspective, leadership is not only concerned with managing organizational operations but also with the capacity to generate change and foster innovation. Entrepreneurial leadership encourages leaders to initiate breakthroughs and transform existing conditions into entrepreneurial opportunities. Gupta et al. (2004) argue that entrepreneurial leadership plays a critical role in constructing a future-oriented vision capable of mobilizing stakeholders to commit to the process of strategic value creation. Through effective communication, leaders can influence organizational members to recognize opportunities, engage in creative thinking, and adapt to rapidly changing environments. In addition, the ability to manage and allocate resources effectively is an important factor in integrating entrepreneurial activities with broader organizational strategies (Teece, 2016).

The effectiveness of entrepreneurial leadership (EL) is also determined by a leader's ability to empower organizational members in realizing the organization's vision and mission. The EL approach is inherently flexible and can be applied across diverse organizational contexts because it emphasizes creativity, opportunity recognition, and adaptability to change (Camps et al., 2016; Castillo & Trinh, 2019). Entrepreneurial leadership as an integration of leadership and entrepreneurship concepts that are reflected in both the behavior of leaders and the actions of organizational members (Renko et al., 2015). Consequently, the success of this leadership style is not determined solely by the leader's conduct but also by the active participation of organizational members in demonstrating entrepreneurial behaviors that contribute to innovation and value creation within the organization.

Another important characteristic of entrepreneurial leadership is proactive behavior. Proactive leaders do not merely wait for

instructions or environmental changes; instead, they actively take initiative to implement improvements, develop new ideas, and initiate activities that benefit the organization. Proactivity is reflected in the ability to recognize untapped opportunities and the willingness to take the first steps in turning those opportunities into reality. Proactive individuals tend to shape their environments by identifying potential opportunities, exploiting them, and sustaining their efforts until meaningful change occurs (Crant, 2000). Rather than simply reacting to existing circumstances, they are capable of identifying problems, formulating solutions, and encouraging constructive transformation. In contrast, individuals with low levels of proactivity tend to adjust passively to their surroundings without actively attempting to change them.

Proactive behavior is also associated with an individual's degree of independence in decision-making and action. Individuals with proactive personalities tend not to rely heavily on direct instructions from leaders when performing their responsibilities. Proactive employees often take initiative even in the absence of explicit guidance from their supervisors (Ahmad et al., 2023). This behavior suggests that proactivity encourages employees to take calculated risks and engage in activities that may lead to innovation. Furthermore, proactive individuals are generally less constrained by external barriers when attempting to influence situations and implement necessary changes (Guenter et al., 2017). As a result, proactive behavior plays a crucial role in creating a more dynamic and innovative work environment.

Within organizational contexts, proactive personality also serves as an important factor that strengthens the relationship between entrepreneurial leadership and innovative work behavior. Individuals who exhibit proactive characteristics typically demonstrate strong dedication, courage in facing challenges, and imaginative thinking that encourages creative action. Proactive individuals are better able to take advantage of organizational conditions that support learning from mistakes and adapting to change as opportunities to enhance creativity

(Hülshager et al., 2009). These conditions ultimately contribute to increased innovative work behavior among employees. Therefore, proactive personality represents an important factor influencing how entrepreneurial leadership stimulates innovation within organizations.

Proactive personality also influences how individuals respond to leadership behavior within organizations. Individuals with a high level of proactivity tend to be more responsive to opportunities for innovation and do not wait for instructions before taking action. Proactive personality plays an important role in shaping how employees respond to the leadership styles adopted by their leaders (Guenter et al., 2017; Newman et al., 2017). Proactive individuals typically take the initiative to address work-related problems independently without waiting for direction from supervisors (Crant, 2000; Li et al., 2014). In contrast, individuals with lower levels of proactivity tend to wait for explicit instructions before acting, which limits the potential for innovation that may emerge from individual initiative.

Beyond proactivity, entrepreneurial leadership is characterized by several other attributes that support the development of entrepreneurial behavior within organizations. Effective entrepreneurial leadership recognizes human resources as a key driver in fostering entrepreneurial behavior and actively supports the development of such capabilities among organizational members (Pauceanu et al., 2021). In addition, leaders must be able to interpret and communicate emerging opportunities in ways that can be understood and utilized by members of the organization. Through this capability, entrepreneurial leadership enables organizations to take advantage of opportunities more effectively while encouraging the creation of innovation and sustainable value.

Entrepreneurial leadership does not focus solely on achieving organizational targets but also aims to stimulate motivation and commitment among team members so that they can perform at their best. Entrepreneurial leadership plays an important role in enhancing employee

performance through an inspirational and opportunity-oriented approach (Renko et al., 2015). In this sense, leaders function not only as coordinators but also as catalysts who foster motivation, confidence, and engagement among organizational members.

This motivational capability is closely associated with the strategic orientation of leaders in developing entrepreneurial initiatives. Leaders with an entrepreneurial orientation are able to guide organizations in identifying and exploiting emerging opportunities while developing innovations that support improved organizational performance. Research indicates that effectively implemented entrepreneurial leadership can positively influence organizational performance through the development of strategies that emphasize opportunity recognition and innovation (Rodríguez-Serrano & Martín-Armario, 2019).

Entrepreneurial leaders are also capable of interpreting environmental dynamics and transforming change into opportunities for competitive advantage. They are able to mobilize organizational resources to develop adaptive and sustainable strategies that allow organizations to maintain performance over the long term (Ortiz-de-Mandojana & Bansal, 2016; Saemaldaher & Emeagwali, 2025; van de Wetering et al., 2017). Nevertheless, research that specifically examines the processes of entrepreneurial leadership and its impact on various organizational outcomes remains relatively limited. Further studies are therefore required to deepen the understanding of how entrepreneurial leadership contributes to improving organizational performance (Dwi Widyani et al., 2020).

The Role of EL in Business

In modern business management, leaders are increasingly expected to possess entrepreneurial leadership capabilities in order to ensure the sustainable growth of their organizations. Entrepreneurial leadership contributes to strengthening organizational capabilities through the effective utilization of resources, the implementation of continuous improvement practices, the development of innovation, and the

establishment of strategic alliances, international expansion, and acquisition activities. In addition, entrepreneurial leadership plays an important role in shaping the innovation process within organizations, ranging from the generation of ideas and the selection of promising concepts to the development and diffusion of innovations. Through these roles, entrepreneurial leadership can enhance innovation performance while simultaneously supporting sustainable business growth.

Beyond fostering innovation, entrepreneurial leadership also plays a significant role in identifying the competencies required within organizations. These competencies include technical and business-related skills, interpersonal capabilities, entrepreneurial competencies, and conceptual abilities that enable individuals to recognize and evaluate emerging opportunities. This leadership approach can also enhance employee creativity by cultivating supportive work environments characterized by psychological empowerment and psychological safety. Under such conditions, employees are more likely to express new ideas and engage in innovative behavior. Ultimately, entrepreneurial leadership contributes to improved business performance through the strengthening of team creativity, the development of dynamic capabilities, the creation of competitive advantage, and the effective management of organizational knowledge to support long-term success.

Innovation Prespective (Innovative Thinking)

From an innovation perspective, personal entrepreneurial skills serve as an important factor that encourages the emergence of new ideas and the development of creative solutions within organizations. Entrepreneurial skills are not limited to the ability to manage business activities; they also encompass creative thinking, opportunity recognition, and the capability to transform ideas into valuable innovations. Individuals who possess entrepreneurial competencies are generally able to recognize changes in their surrounding environment and

leverage these changes as opportunities to create something new and distinctive.

Innovation-oriented entrepreneurship reflects an individual's ability to identify opportunities, manage available resources effectively, and generate added value through creative approaches that differ from existing practices. In this context, innovation is not merely understood as the creation of new products but rather as a systematic process that involves idea development, the implementation of new strategies, and the creation of solutions that enhance organizational competitiveness. Therefore, personal entrepreneurial skills constitute a crucial foundation for fostering sustainable innovation and contributing to organizational growth and long-term success.

Innovative Thinking Characteristic

Creative thinking represents one of the core characteristics of innovative thinking. It refers to the ability to generate new combinations of resources that can lead to the creation of products, methods, or markets that previously did not exist. Within the context of entrepreneurship, creativity and innovation involve the processes of generating, developing, and implementing new ideas that support business success across various sectors. This process does not merely focus on the emergence of ideas but also on the capability to transform those ideas into products or services that can be utilized by consumers in meeting everyday needs. Consequently, creativity and innovation play a critical role in enabling entrepreneurs to recognize opportunities, identify solutions to emerging problems, and develop unique and valuable ideas.

Beyond generating new ideas, innovation also contributes to improving the efficiency and effectiveness of business processes. The adoption of modern technologies, improvements in operational systems, and the development of more productive working methods can help organizations reduce costs while simultaneously enhancing business performance. Such processes require creative thinking, the ability to analyze market opportunities, and adequate managerial

competencies. The entrepreneurship education significantly influences the formation of entrepreneurial attitudes among university students (İlieş et al., 2023; Liu et al., 2019; Valencia-Arias et al., 2022). In essence, entrepreneurship reflects an individual's capacity to express creativity and innovation in economic activities. Therefore, fostering creative and innovative attitudes among students is essential. This can be achieved through educational programs, training activities, and entrepreneurship seminars aimed at encouraging the emergence of future entrepreneurs while also contributing to the reduction of unemployment.

The development of creative and innovative attitudes must also be supported by the ability to conduct market analysis so that aspiring entrepreneurs can better understand consumer needs and anticipate the direction of business development. Creative and innovative thinking is a key factor for success in an increasingly competitive business environment (Dereli, 2015). Efforts to cultivate such attitudes can be pursued by building an innovation-oriented culture that values new ideas, encourages experimentation, and provides training programs and workshops focused on developing creative thinking skills. In addition, participation in seminars and training programs related to industrial and technological developments can help entrepreneurs strengthen their innovation capabilities.

Employees with high levels of creativity can provide numerous benefits for organizations, including improving work efficiency, encouraging initiative, enhancing product quality, and increasing the economic value of the products produced (Balková et al., 2022; Bousinakos & Halkos, 2021; Nasifoglu Elidemir et al., 2020). Creativity also strengthens a company's competitive position by enabling the development of products or services that are more attractive to consumers. Therefore, the development of creative and innovative abilities should be continuously supported through various forms of learning, training, and exploration of technological developments and emerging market opportunities. In this sense,

creative thinking becomes a fundamental capability for entrepreneurs in generating innovations that support both business success and sustainability.

Another important characteristic of innovative thinking is creative self-efficacy. Creative self-efficacy refers to an individual's belief in their ability to generate creative and innovative ideas. This concept originates from the theory of self-efficacy introduced by (Bandura et al., 1980; Maddux, 1995), which describes self-efficacy as an individual's belief in their capability to evaluate, manage, and accomplish various tasks or challenges. Such beliefs influence how individuals think, act, and determine the level of effort they are willing to invest in achieving their goals. Building on this concept, (Tierney & Farmer, 2011) introduced the notion of creative self-efficacy, which specifically refers to an individual's confidence in their ability to produce ideas or solutions that are valuable, useful, and characterized by a high level of creativity.

Individuals with high levels of creative self-efficacy typically demonstrate strong optimism regarding their creative abilities. This belief encourages individuals to approach tasks creatively and to generate innovative solutions aligned with their intended goals. Individuals with strong creative self-efficacy believe they are capable of producing work that is original and distinct from existing ideas or products (Tierney & Farmer, 2011). Such confidence in one's creative capability is also closely related to individuals' expectations of achieving desired outcomes in their work (Leong & Rasli, 2014). Furthermore, individuals who possess adequate skills to perform specific tasks are more likely to achieve better performance outcomes because they are able to utilize their competencies effectively (BANDURA, 2023).

Creative self-efficacy also influences how individuals respond to challenges encountered in the work process. Individuals with high levels of creative self-efficacy tend to demonstrate greater perseverance when facing difficulties and often perceive obstacles as opportunities for growth and development (Puente-Díaz, 2016). This

perspective encourages individuals to experiment with different approaches when solving problems. Research conducted by (Ghulam Jan et al., 2021) indicates that creative self-efficacy plays a significant role in motivating individuals to generate new ideas as part of their innovative work behavior. In this sense, confidence in one's creative ability increases individuals' engagement in activities that involve innovation.

Moreover, creative self-efficacy has been shown to have a significant influence on employees' innovative work behavior. Individuals who strongly believe in their creative capabilities are more likely to apply new ideas and concepts in their work and participate in challenging and complex processes aimed at generating innovative solutions (Petry et al., 2010; Tierney & Farmer, 2004). Previous studies have also demonstrated a strong relationship between creative self-efficacy and innovative work behavior (Akbari et al., 2020; Newman et al., 2017). The higher the level of creative self-efficacy possessed by an individual, the greater the likelihood that the individual will exhibit innovative behavior in the workplace.

In addition, creative self-efficacy can function as a mediating variable in the relationship between entrepreneurial leadership and innovative work behavior. Support from leaders with an entrepreneurial orientation can strengthen employees' confidence in their creative abilities, which in turn encourages the emergence of innovative behavior within organizations. Creative self-efficacy provides continuous internal motivation for individuals to persist in generating creative ideas (Tierney & Farmer, 2004). This condition aligns with the characteristics of entrepreneurial leadership, which emphasize creativity, opportunity utilization, and the ability to generate new value within organizations.

Innovative Thinking within Organizational Context

In addition to individual factors, the capacity for innovative thinking is also influenced by the organizational environment in which individuals operate. Organizations that are able to create a supportive and conducive work environment are more likely to stimulate the emergence of creative ideas among their members. Creativity essentially refers to an individual's ability to use imagination and explore possibilities derived from interactions with ideas, other people, and the surrounding environment in order to produce meaningful connections and novel solutions (Glăveanu & Beghetto, 2021; Newton & Newton, 2014; Tang & Werner, 2017). Within modern organizations, creativity is therefore not merely viewed as the ability to generate ideas, but also as a process that encourages individuals to recognize new opportunities when responding to changes in the business environment.

Creative behavior plays a crucial role in enabling individuals to envision and shape better future possibilities. This is largely because creativity and intelligence are two essential capabilities that allow individuals to participate actively in a rapidly evolving technological era (Bruno & Canina, 2019). Consequently, organizations that aim to achieve sustainable development must provide employees with opportunities to explore ideas, experiment with new approaches, and actively contribute to the development of innovative solutions. In this context, innovation can be understood as the transformation of knowledge into new products, processes, or services that generate added value for both organizations and society (Moustaghfir & Schiuma, 2013; Roco & Bainbridge, 2013).

Table 1. Dimensions of Personal Entrepreneurial Skills from the Perspective of Leadership and Innovation

Dimension	Description
Strategic Vision	The ability of leaders to formulate and clearly communicate the future vision of an organization while directing team members to take advantage of strategic opportunities emerging in the

	business environment. This competence includes predictive, anticipatory, systematic, and integrative thinking in interpreting environmental changes as opportunities for innovation that can enhance organizational competitiveness (Farmer et al., 1998; Mayfield et al., 2015; Mohd Adnan & Valliappan, 2019).
Proactive Behavior	A proactive attitude reflected in an individual's ability to take initiative, initiate change, and avoid relying solely on instructions from others when developing ideas or improving work processes. Proactive individuals tend to identify problems, capitalize on opportunities, and drive constructive change within organizations (Ahmad et al., 2023; Crant, 2000; Guenter et al., 2017).
Motivational Leadership	The ability of leaders to inspire, motivate, and empower organizational members to actively participate in the development of ideas and the implementation of innovation. Through inspirational and opportunity-oriented leadership, leaders can foster a work environment that supports creativity, collaboration, and sustainable improvements in organizational performance (Renko et al., 2015; Rodríguez-Serrano & Martín-Armario, 2019).
Creative Thinking	The ability of individuals to generate new ideas by combining various resources, knowledge, and experiences in ways that create valuable products, methods, or markets for the organization. Creativity serves as the foundation of innovation processes because it encourages individuals to identify opportunities, solve problems, and develop unique ideas that add value to the organization (Steiner, 2009; Tang & Werner, 2017).
Creative Self-Efficacy	An individual's belief in their capacity to generate creative ideas and valuable innovative solutions. This concept extends the theory of self-efficacy, which explains that individuals' beliefs about their abilities influence how they think, act, and deal with challenges. Individuals with high levels of creative self-efficacy tend to persist in overcoming obstacles and are more actively engaged in innovative work behavior (Ghulam Jan et al., 2021; Newman et al., 2018; Petry et al., 2010; Tierney & Farmer, 2004).

Universities as Entrepreneurial Centres

Universities play a strategic role in developing students' entrepreneurial skills. The role of higher education institutions in career and entrepreneurship development is not limited to providing formal education; they also function as incubators that foster the development of students' skills, talents, and innovative capacities (Guerrero et al., 2020; Hassan, 2024). Higher education institutions can provide practice-oriented learning through various initiatives such as entrepreneurship courses, internship programs, business incubators, and collaborations with industry partners in order to strengthen students' readiness for the professional world (Getachew, 2025; Kazaishvili et al., 2025).

In addition, universities contribute to the development of complementary competencies required in the modern workplace, including effective communication, teamwork, and interpersonal skills. Training programs and

personal development activities organized by universities aim to enhance students' ability to build professional networks, manage conflicts constructively, and adapt to dynamic work environments (Zamiri & Esmaeili, 2024). Furthermore, competencies such as time management, creative thinking, and innovation are also essential skills that can be cultivated through workshops and training activities within the university environment (Keinänen & Kairisto-Mertanen, 2019; Thornhill-Miller et al., 2023).

Universities also provide career guidance services that assist students in exploring their interests and personal potential, planning career pathways, and understanding labor market demands. These services include activities such as curriculum vitae writing workshops, job interview simulations, and the introduction of career opportunities relevant to students' competencies. Through comprehensive career guidance support, students are expected to prepare themselves more effectively to face labor market challenges and to

develop sustainable career trajectories (Donald et al., 2018; Okolie et al., 2020).

In the learning process within higher education, innovative teaching strategies also play a crucial role in fostering entrepreneurial competencies among students. One widely adopted approach is the SPICES learning strategy (Student-centered, Problem-based, Integrated teaching, Community-oriented, early clinical exposure, and Self-directed learning). This approach emphasizes student-centered learning, problem-solving, knowledge integration, and the development of independent learning abilities that can stimulate creativity and innovation in the learning process (Bhardwaj et al., 2025; Dada et al., 2023). Through such innovative educational approaches, universities can create learning environments that encourage students to develop entrepreneurial mindsets, creativity, and innovative capabilities needed to address the challenges of the modern workforce.

5. Conclusion

Based on the research findings, it can be concluded that personal entrepreneurial skills and entrepreneurial leadership are fundamentally interconnected capabilities essential for fostering sustainable innovation in modern organizations. The key finding reveals that personal entrepreneurial skills extend beyond creative thinking to include the courage and capability to implement ideas through planned, measurable actions. Individuals with strong personal entrepreneurial skills can recognize opportunities, manage resources effectively, and transform ideas into valuable solutions. Within organizational settings, this capability is reflected in entrepreneurial leadership, where leaders not only encourage new ideas but also guide members in developing and implementing those ideas in

daily work activities. Through inspirational leadership, leaders create work environments that support creativity, initiative-taking, and experimentation with new approaches. The integration of personal entrepreneurial skills and entrepreneurial leadership enables organizations to adapt to dynamic environmental changes, contributing to both individual success and enhanced organizational competitiveness. The practical implication of this study is that organizations should prioritize developing both individual entrepreneurial capabilities and leadership practices that support idea implementation. Leaders with an entrepreneurial orientation should create psychologically safe environments where experimentation is encouraged, provide resources and autonomy for employees to pursue innovative ideas, and establish systems for translating creative concepts into concrete organizational value. Educational institutions should integrate personal entrepreneurial skill development into curricula, emphasizing not only idea generation but also project planning, resource management, and implementation strategies. Future research should empirically investigate the relationship between personal entrepreneurial skills, entrepreneurial leadership, and relevant variables such as innovation performance, organizational performance, and organizational culture. Recommended methodological approaches include surveys of university students to measure personal entrepreneurial skill development in higher education contexts, case studies of highly innovative companies, and empirical analyses examining the relationship between entrepreneurial leadership and innovation performance within organizations. Additionally, longitudinal studies tracking how these capabilities evolve over time would provide valuable insights.

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7. Acknowledgements (Optional)

We acknowledge to the Rector of President University who has given us the opportunity for the research project, and all colleagues who have helped us in this meaningful paper.

8. Author Declaration

- We confirm this paper is originality of work
- We state this paper no conflicts of interest

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