

Creativity and Innovation as the Foundation of Entrepreneurship in the VUCA Era: A Conceptual Perspective

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ABSTRACT

Era VUCA, yang ditandai oleh volatilitas, ketidakpastian, kompleksitas, dan ambiguitas, menuntut pelaku kewirausahaan untuk memiliki kreativitas dan inovasi sebagai kemampuan strategis, bukan sekadar nilai tambah. Artikel konseptual ini bertujuan menggali peran kreativitas dan inovasi dalam menjaga relevansi dan keberlanjutan kewirausahaan di tengah perubahan yang cepat dan tidak terduga. Kreativitas memungkinkan lahirnya gagasan baru secara fleksibel dan adaptif, sementara inovasi berfungsi sebagai strategi proaktif dalam menghadapi dinamika lingkungan bisnis. Kemampuan ini dipengaruhi oleh faktor organisasi, modal, pengetahuan, teknologi, serta kepemimpinan yang mendukung terciptanya inovasi berkelanjutan.

ABSTRAK

The VUCA era characterized by volatility, uncertainty, complexity, and ambiguity requires entrepreneurial actors to possess creativity and innovation as strategic capabilities rather than merely additional attributes. This conceptual article aims to examine the role of creativity and innovation in maintaining the relevance and sustainability of entrepreneurship amid rapid and unpredictable change. Creativity enables the generation of new ideas in a flexible and adaptive manner, whereas innovation functions as a proactive strategy for responding to the dynamics of the business environment. These capabilities are

influenced by organizational factors, capital, knowledge, technology, and leadership that support the creation of continuous innovation.

INTRODUCTION

In the context of entrepreneurship, creativity not only relates to the generation of new ideas but also involves the ability to connect previously unrelated information to produce innovations that can be applied in real-world settings. Creativity enables individuals to formulate original concepts, reinterpret existing knowledge, and transform insights into practical solutions. Innovation refers to the capability to create something new, whether in the form of products, services, or more efficient processes. This capability encompasses conducting research, performing experimentation, and applying new ideas that can offer solutions to existing societal or industry-specific problems. Innovation allows a company to remain relevant, adapt to change, and respond effectively to continuous market challenges and disruptions. Through innovation, businesses can enhance their competitive advantage and sustain long-term growth. Conversely, without innovation, an enterprise will fall behind and struggle to compete with other firms that consistently evolve and improve (Manilang et al, 2025).

One of the principal figures who introduced the theory of innovation in entrepreneurship is Joseph Schumpeter (1934). In his view, innovation constitutes the core of entrepreneurial activity, enabling firms to disrupt existing market conditions through what he describes as “creative destruction,” a process in which innovation dismantles old market structures and

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replaces them with more efficient and productive business models (Schumpeter, 1934). This perspective underscores the transformative power of innovation in reshaping economic systems and generating long-term competitive advantage. On the other hand, creativity represents the unlimited capacity to generate new ideas that can offer intelligent and effective solutions to existing problems. Creativity is a complex and multifaceted construct that encompasses various cognitive and affective dimensions. A widely accepted definition describes creativity as the ability to produce something novel and valuable, reflecting both originality and usefulness (Kaufman & Sternberg, 2019).

Creativity is not limited to the fields of art or design, but it is also highly essential within business contexts. In the development of entrepreneurship and innovative business models, the creative process plays a fundamental role in generating new and valuable ideas. This process generally proceeds through four critical stages, beginning with preparation, a phase in which individuals formulate problems and gather relevant information to determine a potential direction for solutions. The next stage is incubation, during which the mind continues to work unconsciously even when individuals shift their attention away from the primary issue. This condition subsequently leads to the illumination stage, which is characterized by the emergence of deep insights or sudden understanding regarding potential solutions. The final stage is verification, in which the idea or insight is tested and validated to ensure that the proposed solution can be effectively applied within entrepreneurial contexts or in the development of innovative business models (Thabroni, 2022).

We have entered various eras, including the industrial revolution era, the globalization era, the digitalization era, the disruption era, and now the VUCA era. VUCA is an acronym for Volatility, Uncertainty, Complexity, and Ambiguity (Indrawati et al., 2024). The term was first introduced within the U.S. military environment in the post Cold War period to describe a global condition characterized by uncertainty, complexity, and confusion (Millar et al., 2018). The VUCA framework, originating from that experience, later evolved into a conceptual and practical approach adopted by economic practitioners to address challenges related to volatility, uncertainty, complexity, and ambiguity (Indrawati et al., 2024). Today, these conditions have increasingly permeated all aspects of life, including social, cultural, business, political, and educational domains (Hadar et al., 2020). Therefore, it is essential to understand VUCA in greater detail, particularly within business contexts, to strengthen entrepreneurial capabilities and responses in an environment marked by continuous change.

The VUCA era characterized by volatility, uncertainty, complexity, and ambiguity has generated a monumental impact on organizations, transforming traditional paradigms and challenging the foundational principles of business operations (Indrawati et al., 2024). The VUCA framework has been widely applied by companies and organizations across various industries and sectors as a fundamental basis for shaping leadership practices and strategic planning (Utama et al., 2022). In this context, entrepreneurs are expected to possess the courage to take risks that arise from fluctuating and unpredictable conditions. Innovation, particularly through the creation of creative and differentiated products or services compared to those already available in the market, becomes an essential requirement. Prospective entrepreneurs are also expected to develop entrepreneurial skills, market orientation, and sales orientation so that their start-up ventures can achieve competitive advantage and ultimately improve their business performance (Rizan & Utama, 2020).

The phenomenon of increasingly rapid, unpredictable, complex, and ambiguous changes in the business environment commonly referred to as VUCA (Volatility, Uncertainty, Complexity, Ambiguity) positions creativity and innovation not merely as added value but as strategic

necessities for entrepreneurial sustainability (Adiwijaya, 2024). In markets characterized by uncertainty, business actors are required to interpret shifts, respond to consumer dynamics, and continuously create new value (Kusuma et al., 2025). Creativity functions as the source of fresh ideas that can open new opportunities, while innovation transforms those ideas into concrete solutions that provide competitive advantages (Manilang et al., 2025). The combination of these two capabilities forms the fundamental basis for building business resilience and entrepreneurial adaptability amid persistent uncertainty.

The VUCA era requires entrepreneurs to adopt an experimental mindset that encourages them to take risks, learn rapidly, and iterate based on market feedback. This approach positions creative and innovative capabilities as core competencies that not only generate new products or services but also support the development of flexible, efficient, and technologically relevant business models that align with shifting consumer behaviors (Nanda, 2024). The ability to manage the creative process systematically from problem formulation and idea generation to solution validation and implementation serves as essential capital for addressing increasingly intense competitive challenges (Rustiyana et al., 2025). Understanding the interrelationship between creativity, innovation, and the challenges posed by the VUCA environment provides a strong conceptual foundation for analyzing how entrepreneurs can survive, grow, and even create positive disruption within the marketplace.

This conceptual article focuses on examining creativity and innovation as the foundational elements of entrepreneurship and evaluating their relevance in responding to the dynamics of today's business environment. The first research question explores how creativity functions as a key factor that enables individuals and organizations to navigate the dynamics and challenges of the VUCA era. The second question investigates how innovation serves as a critical mechanism for supporting individuals and organizations in addressing the uncertainties and complexities of VUCA conditions. The third question identifies the factors that influence creativity and innovation within entrepreneurial contexts in the VUCA era. The objective of this study is to explore the role of creativity and innovation in entrepreneurship amid VUCA turbulence. The conceptual insights presented in this article are developed from existing problems and articulated through a written analysis informed by a comprehensive review of relevant scholarly sources.

RESULTS AND DISCUSSION

The Role of Creativity in the VUCA Era

Creativity is defined as the ability to create, transform, manifest ideas into new forms, and design imaginative constructs that result in novel outcomes (Chen & Lin, 2010). This capability involves flexible thinking, proficiency in solving problems innovatively, and a tendency to generate or connect ideas that have not been previously considered (Ji & Lang, 2024). Creative performance is not only relevant within artistic domains but is also highly significant in business, technology, education, and other disciplines that require adaptive thinking. Individuals with a high level of creative performance are typically able to respond to challenges in unique ways, offer breakthrough solutions, and contribute positively to the environments in which they operate (Indrawati et al., 2025).

Creativity, as an attitude, reflects an individual's ability to embrace change and novelty, generate ideas, and demonstrate flexibility toward established norms. Creativity is also viewed as a process in which creative individuals work persistently to produce ideas and continuously refine and improve their work (Gilson & Litchfield, 2017). A supportive environment, a collaborative culture, opportunities for idea exploration, and the confidence to experiment with

new possibilities serve as essential factors that shape an individual's creative capacity. Employee creativity represents an individual-level phenomenon that reflects the production of creative ideas, uniquely constructed from existing concepts and aimed at proposing new approaches to generate innovative solutions (Ogbeibu et al., 2018).

The VUCA concept captures the rapidly changing nature of today's world, highlighting the challenges and uncertainties encountered by organizations, individuals, and broader society (Ra'is, 2025). In such dynamic conditions, individuals must adapt swiftly, interpret complexity, and identify fresh approaches, positioning creativity as a crucial instrument for surviving and thriving amid uncertainty. In volatile and unpredictable circumstances, linear thinking often proves insufficient. Creativity and innovation function as strategic responses to uncertainty, where the capacity for creative thinking becomes essential because it enables individuals to interpret changes adaptively (Hakim et al., 2025). A mindset that is not bound by established routines opens pathways for the emergence of more relevant approaches. Creativity then propels innovation, the process of translating fresh ideas into concrete actions that assist individuals and organizations in navigating environmental dynamics (Estede et al., 2025).

Through creativity and innovation, various procedures can be reassessed, refined, enhanced, made more engaging, more satisfying, and more enjoyable, ultimately leading to the development of superior ideas or the replacement of existing mechanisms with more effective ones (Diharto, 2022). This approach not only helps organizations respond to change but also fosters transformations that strengthen sustainability and competitiveness in an ever shifting environment. Moreover, creativity promotes cognitive flexibility the ability to shift perspectives, reinterpret situations, and adjust strategies in response to rapid contextual changes (Ismaimuza, 2025). This flexibility reinforces resilience, as individuals and organizations are less likely to be constrained by rigid routines and are instead capable of modifying processes, work models, or services in accordance with the demands for innovation (Jaka, 2025).

Complex situations require non-rigid thinking and the ability to identify and connect interacting factors. Creativity supports this need by enabling individuals to construct models, experiment with solutions, and reframe problems (Zakiyah, 2025). In today's digital era, continuous innovation has become a necessity. The transformation of mindset from technological awareness to technological literacy, then to technological capacity, and ultimately to technological creativity illustrates the increasing demand for individuals to engage with digital systems in creative and meaningful ways (Rachmad Prihadi, 2019). Creativity is not only an individual trait but also a social one. Organizational environments that foster cross-functional collaboration and continuous learning are more capable of adapting to ambiguous changes (Hakim & Samiyah, 2025).

From an educational perspective, the need to cultivate entrepreneurial mindsets among learners highlights the crucial roles of creativity and innovation in enabling educators to adjust their teaching practices. The integration of technologies such as online platforms, virtual classrooms, and interactive digital tools can enhance learning quality while meeting the demands of rapid changes driven by global conditions or evolving policies (Wahyudi & Jatun, 2024). To strengthen their creative performance, lecturers may employ various innovative strategies from designing more exploratory learning experiences to developing research that introduces new approaches (Handayani & Hidayat, 2025). Reflective practice, continuous learning, cross-disciplinary collaboration, the use of advanced technologies, and the willingness to adopt unconventional teaching methods constitute several creative approaches that educators may implement. Through these efforts, educators not only respond effectively to VUCA dynamics but

also actively shape a more adaptive and visionary direction for education, particularly in entrepreneurship learning.

In the field of education, particularly in entrepreneurship courses within management studies, lecturers can develop business simulation activities in which students work in groups to run a fictional company. Each participant is able to design strategies, make managerial decisions, and respond to various issues that arise throughout the simulation process. This approach not only strengthens their understanding of entrepreneurial theory in management but also fosters leadership skills, analytical thinking, and creative collaboration. By implementing such teaching methods, lecturers do more than deliver theoretical material they also help students build critical and creative thinking capacities through more meaningful and contextual entrepreneurial learning experiences, ultimately preparing them to become independent and innovative entrepreneurs after graduating from university (Legi, 2023).

The Role of Innovation in the VUCA Era

Innovation serves as a key factor that enables individuals and organizations to confront the dynamics and challenges of the VUCA era characterized by volatility, uncertainty, complexity, and ambiguity. Amid high volatility, market dynamics, technological advancements, and shifts in consumer behavior occur rapidly, requiring organizations to develop strong adaptive capabilities (Amang, 2025). By implementing innovation, organizations are able to adapt to rapid change. Innovation whether in the form of product development, process improvement, or business model renewal functions as a strategic mechanism that allows organizations to conduct experimentation, test new approaches, and adjust their operational direction more dynamically (Herdiyana, 2025).

Innovation also serves as an essential foundation for organizations seeking to build competitive advantage in unstable environments (Lestari, 2019). Innovative efforts encourage the creation of new solutions, the enhancement of efficiency, and the exploitation of opportunities that arise from external changes (Kamarudin et al., 2024). Thus, innovation functions not only as an adaptive tool but also as a proactive strategy for maintaining organizational relevance and sustainability in the VUCA era. Moreover, the implementation of continuous innovation strengthens organizational flexibility and responsiveness in addressing uncertainties associated with rapid changes.

Through the implementation of innovation one example being data-driven innovation or data-driven strategy organizations are able to make decisions based on more accurate empirical evidence, thereby reducing the risks associated with speculative judgment. This approach enables organizations to understand consumer behavior patterns, predict market trends, and identify opportunities and threats with greater precision. Such innovation leverages data-based strategies to strengthen competitiveness and maintain business sustainability amid the uncertainties of the VUCA era (Nengsih et al., 2025). In addition to data-driven innovation, managerial innovation also plays a crucial role in reducing uncertainty, particularly through agile leadership. Agile leadership emphasizes flexibility, adaptability, and collaboration as core principles for responding quickly to change. By applying these principles, organizations can cultivate a work environment that is more dynamic, innovative, and development-oriented (Wardhana et al., 2025).

Complexity within organizations arises from the multitude of interrelated variables, ranging from internal processes and market dynamics to interactions among work units (Putri, 2024). To address these conditions, innovation in organizational structure such as the implementation of decentralization and the formation of cross-functional teams can serve as an

effective strategy to reduce such intricacies; in other words, innovation enables organizations to manage complexity in the VUCA era. Innovation also plays a significant role in human resource management, particularly in fostering employee creativity (Ramadhani, 2024). When organizations cultivate a culture that encourages open expression, experimentation, and continuous learning, an “innovation ecosystem” emerges. Within such an ecosystem, individuals are better prepared to face complex situations because they are given the space to explore and develop new solutions.

Innovation plays a crucial role in addressing ambiguity, a condition in which meaning, information, or the appropriate course of action is not entirely clear, thereby generating uncertainty in decision-making processes (Aziz et al., 2025). To respond to such situations, strategic innovations such as digital transformation and culture-based organizational innovation can help create internal clarity. Digital transformation enables organizations to conduct experiments, build prototypes, and perform rapid validation, allowing vague assumptions to be tested and clarified through data and empirical evidence. This process strengthens the organization’s ability to interpret ambiguous conditions and formulate more directed strategies. In addition, the development of digital governance or technology-based administrative innovation also plays an important role in reducing ambiguity, particularly within the public sector. Thus, strategic innovation helps establish a clearer, measurable, and more responsive foundation for organizations in navigating ambiguity in the VUCA era (Maulana et al., 2025).

Innovation does not merely function as a response to change but also serves as a long-term strategy that enables organizations to maintain business sustainability amid ongoing turbulence (Napitupulu & Supriadi, 2025). Systematically designed innovative approaches help organizations anticipate future needs, strengthen competitive positioning, and create new value that aligns with environmental dynamics. The utilization of technology becomes a crucial element for organizational resilience and sustainability in the VUCA era. The integration of these three aspects allows organizations to generate new insights, enhance process quality, and accelerate their ability to adapt to external changes.

Innovation within an organization becomes a foundational pillar that supports long-term corporate strategy. An innovation-oriented culture is reflected in the presence of spaces for proposing new ideas, institutional willingness to accept the risk of failure as part of the learning process, and appreciation for creativity emerging from various organizational levels. When such a culture is consistently established, the organization is not only capable of responding to challenges but also able to anticipate opportunities, expand core competencies, and build strategic resilience. Thus, well-managed innovation serves not only as a tool for survival but also as a mechanism for continuous growth and transformation within an environment marked by persistent uncertainty.

Factors Influencing Innovation and Creativity in Entrepreneurship

The first factor that influences innovation and creativity in entrepreneurship is a supportive organizational environment one that encourages experimentation, openness to new ideas, and collaborative work. The second factor is the availability of resources such as capital, knowledge, and technology, which expands opportunities for experimentation and innovation development. The third factor is leadership and management leaders who inspire and support their teams are able to cultivate a culture of innovation (Amabile, 1988). Over time, society has entered multiple transformative phases, including the industrial revolution, globalization, digitalization, disruption, and now the VUCA era. VUCA, an acronym for Volatility, Uncertainty, Complexity, and Ambiguity, increasingly affects all areas of life social, cultural, business, politics,

and education (Millar et al., 2018). Therefore, it is important to understand in greater detail what VUCA truly entails. Volatility, for instance, refers to rapid and unpredictable change characterized by emerging challenges with unclear root causes (Millar et al., 2018).

These new challenges lack consistent patterns. Change occurs so quickly that what was once considered a threat two years ago may now be replaced by different concerns. The emergence of volatile environments is strongly influenced by technological advancement, as seen during the pandemic with the widespread use of digital tools (Avetisyan et al., 2022). Lockdown policies compelled learning activities to be conducted from home (Tabassum, 2022), forcing students and educators to rely heavily on technology. Social media applications, once used primarily for communication, became central platforms for learning (Nayak et al., 2022). New economic patterns also emerged, such as the shift of businesses to digital platforms and the rise of livestreaming, affiliate marketing, and endorsement-based promotion (Wang et al., 2023). Volatility in the workplace includes uncertainty and fluctuations rooted in economic shifts, technological innovation, and organizational policy changes.

For example, sudden changes in market demand or the emergence of new technologies can significantly alter labor needs and required skills. An industry may experience a sharp decline in demand, or certain roles may become obsolete due to automation or evolving trends. Shifts in organizational policies can also create volatility in work environments (Beghetto, 2021). Technology, in particular, has become a major source of workplace volatility, as rapid advancements can create or disrupt entire industries. Jobs once regarded as stable may disappear due to automation. Recognizing this volatility, employees must develop adaptability, flexibility, and lifelong learning skills to remain relevant and succeed in an ever-changing workplace. Organizations, in turn, need effective change-management strategies to navigate volatility, maintain operational continuity, and ensure employee well-being.

Leadership and management play a strategic role in shaping an innovative culture within organizations. Visionary leaders do not merely direct but inspire team members to think creatively and explore new approaches (Napisah et al., 2024). Their support whether through resource provision, experimental freedom, or tolerance for constructive failure creates a psychologically safe environment that nurtures innovation (Dacholfany et al., 2025). Furthermore, effective leaders foster open communication, strengthen cross-functional collaboration, and encourage continuous learning. Adaptive managerial practices ensure that innovative ideas can be implemented systematically and sustainably. Thus, inclusive and supportive leadership becomes the foundation for cultivating a long-term and resilient culture of innovation within organizations.

CONCLUSION

Understanding the VUCA era following the industrial revolution, globalization, digitalization, and disruption era has become increasingly important. VUCA, an acronym for Volatility, Uncertainty, Complexity, and Ambiguity, reflects the accelerating pace of environmental changes that are unpredictable, complex, and ambiguous. These conditions make creativity and innovation not merely added value but strategic necessities for entrepreneurial sustainability. The purpose of this study is to explore the role of creativity and innovation in entrepreneurship within the VUCA environment. Creativity represents the ability to generate new ideas through flexible, adaptive, and innovative thinking, making it highly relevant for navigating the uncertainties of the VUCA world. Innovation, meanwhile, functions not only as an adjustment tool but also as a proactive strategy to maintain organizational relevance and long-term sustainability. The implementation of continuous innovation strengthens organizational

flexibility and responsiveness in dealing with rapid changes. Factors influencing innovation and creativity in entrepreneurship include the organizational environment, capital, knowledge, technology, leadership, and managerial support.

RECOMMENDATIONS

For Entrepreneurs

Entrepreneurs are encouraged to build a work culture that is flexible and open to experimentation so they can respond quickly to environmental changes. Developing employees' creative capacity through continuous training and digital literacy is essential for strengthening competitiveness. The use of technology and structured innovation methods such as Design Thinking or Lean Startup can help businesses generate solutions aligned with market needs. In addition, collaboration with strategic partners and innovation communities is crucial for broadening perspectives and accelerating the emergence of new ideas. Visionary leadership is also necessary to ensure that innovation processes are implemented consistently and purposefully.

For Schools and Universities

Schools and universities should develop entrepreneurial curricula that are project-based and application-oriented, enabling students to think creatively and identify business opportunities. Educational institutions are also advised to provide business incubation ecosystems, mentoring, and access to industry networks to support the development of entrepreneurial ideas from an early stage. Strengthening the use of digital technologies in learning is essential to equip students with innovative skills relevant to modern market demands. Furthermore, collaboration with local businesses and startups can provide practical experience and insights into real-world business dynamics.

For Researchers

Researchers are encouraged to broaden their focus on issues related to creative and innovative entrepreneurship that align with the dynamics of the VUCA era, so their work can offer strategic contributions to both education and industry. Collaboration with educational institutions, business practitioners, and innovation communities is also important to enrich perspectives and accelerate knowledge transfer. Additionally, expanding the dissemination of research findings across various platforms will help amplify their impact on the development of creativity and innovation. Finally, researchers should continue to monitor technological advances and global trends to ensure the long-term relevance of their studies.

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