

Entrepreneurial Resilience of Shadow Education Entrepreneurs: A Mini Review Article

Nur Syazwani Hamid, Hariyaty Ab. Wahid

Faculty of Management and Economics, Sultan Idris Education Universiti, 35900 Tanjong Malim, Perak

*Corresponding Author

DOI: <https://dx.doi.org/10.47772/IJRISS.2025.927000010>

Received: 12 November 2025; Accepted: 21 November 2025; Published: 26 November 2025

ABSTRACT

This mini review explores the role of entrepreneurial resilience among shadow education entrepreneurs, who offer private supplementary tutoring in volatile, competitive educational markets. Resilience is defined as the capacity to adapt, recover, and innovate in the face of adversity. This quality has become increasingly vital due to the challenges posed by regulatory reforms, changing parental expectations, digital disruption, and crises such as the COVID-19 pandemic. A thorough literature search was conducted using Scopus and Google Scholar up to 25 August 2025, employing Boolean search strings and keywords such as ‘entrepreneurial resilience,’ ‘shadow education,’ ‘business challenges,’ and ‘innovation.’ Eligible studies included original research, systematic reviews, case studies, and meta-analyses published in English that explicitly referenced entrepreneurial resilience in shadow education. Grey literature and non-English sources were excluded. Findings indicate that entrepreneurial resilience manifests through strategies such as digital adoption, service diversification, and emotionally intelligent leadership, enabling entrepreneurs to sustain learning continuity, safeguard employment, and foster pedagogical innovation. COVID-19 accelerated digital-first models, highlighting both the opportunities of adaptive technologies and persistent challenges such as financial precarity, inequitable access, and concerns over data ethics. While resilience provides clear benefits, debates remain over whether it should be framed primarily as individual adaptability or as a collective, systemic response shaped by socio-economic and policy contexts. Gaps in cross-cultural research, long-term technological evaluation, and attention to psychological well-being suggest the need for deeper inquiry. Strengthening resilience will require collective infrastructures, equitable policy frameworks, and ethical integration of digital tools, ensuring sustainability and inclusivity in the evolving landscape of shadow education.

Keywords: entrepreneurial resilience, shadow education, private tutoring, educational innovation, and adaptive strategies

INTRODUCTION

The proliferation of shadow education, private supplementary tutoring services that complement formal schooling, has fundamentally reshaped educational landscapes across the globe (Perkins et al., 2024). This phenomenon has expanded learning opportunities for families while also fostering vibrant entrepreneurial ecosystems within the education sector. However, entrepreneurs operating in the shadow education sector face an inherently volatile environment characterized by unpredictable regulatory frameworks, evolving parental expectations, technological disruptions, and mounting equity concerns (Kumaravel et al., 2024).

Entrepreneurial resilience emerges as a pivotal factor determining both business sustainability and educational impact within such challenging contexts. This concept, encompassing an entrepreneur’s capacity to adapt, innovate, and recover from setbacks, has gained particular significance following recent global disruptions, including the COVID-19 pandemic and various educational policy reforms (Nosike et al., 2024).

These events compelled numerous entrepreneurs to fundamentally restructure their business models, embrace emerging technologies, and redefine their educational roles.

Despite its critical significance, the concept of resilience within shadow education entrepreneurship remains insufficiently explored in academic literature. Current research predominantly focuses on market dynamics and policy implications, creating substantial knowledge gaps regarding the psychological, organizational, and technological factors that influence resilience. Moreover, scholarly discourse continues to debate whether resilience should be conceptualized primarily as individual adaptability, organizational strategy, or a collective response embedded within broader educational systems.

This comprehensive review addresses these theoretical and empirical gaps by synthesizing existing knowledge on entrepreneurial resilience in the context of shadow education. The analysis systematically examines four interconnected thematic areas: future research directions, benefits and challenges, key technologies, and practical applications. Through identifying significant findings, ongoing debates, and research lacunae within each theme, this review provides insights into how resilience simultaneously sustains entrepreneurial activities and transforms educational provision, ultimately proposing pathways toward more equitable and sustainable development.

Conceptualizing Entrepreneurial Resilience in Shadow Education

Entrepreneurial resilience, conceptualized as the capacity to adapt, recover, and flourish amid adversity, assumes particular significance for entrepreneurs navigating the shadow education sector. This environment is characterized by market volatility, regulatory pressures, and shifting societal expectations, which collectively create complex operational challenges. Shadow education, encompassing private tutoring and supplementary educational services, is frequently subject to unpredictable disruptions, including policy changes, economic fluctuations, and intensified competition from both formal and informal education providers.

Resilient entrepreneurs within this sector demonstrate sophisticated adaptive strategies that extend beyond mere survival mechanisms. These strategies encompass diversifying service portfolios, leveraging digital platforms for greater scalability, and cultivating robust community relationships to maintain client confidence. Empirical evidence reveals that resilient entrepreneurs employ proactive coping mechanisms during crises. For instance, during the COVID-19 pandemic, many successfully transitioned to online tutoring platforms, enabling business continuity despite widespread operational disruptions (Rasiah et al., 2020).

The ability of these entrepreneurs to navigate cultural and economic barriers, particularly in regions with substantial reliance on private tutoring, underscores the fundamental role of psychological and social capital in fostering resilience. Research demonstrates that entrepreneurs possessing strong cultural competency and emotional intelligence are better positioned to maintain client relationships and adapt service delivery methods according to local contexts (Kai Liao et al., 2021).

Network Capital and Resource Mobilization

The resilience trajectory of shadow education entrepreneurs is significantly influenced by their capacity to cultivate strategic networks and harness external resources for risk mitigation. Social capital, derived from relationships with parents, students, educational institutions, and industry peers, serves as a critical buffer against market uncertainties (Li, S. & Sanusi E. S., 2025). This relational capital enables entrepreneurs to access referral networks, secure funding opportunities, and establish institutional legitimacy in competitive markets (Tian et al., 2022).

Contemporary research indicates that entrepreneurs who actively participate in professional networks and industry associations demonstrate superior capabilities to anticipate regulatory changes and adapt business models accordingly (Hokmabdi et al., 2024). These network connections provide early warning of policy shifts while facilitating knowledge transfer on best practices and innovative solutions.

Furthermore, resilience is enhanced by cultivating a growth-oriented mindset, reframing setbacks as learning opportunities rather than insurmountable obstacles. This psychological orientation, combined with strategic innovation initiatives such as integrating artificial intelligence tools for personalized learning experiences, has been empirically linked to enhanced long-term sustainability in the sector (Kulkov et al., 2024).

The synthesis of adaptive strategies with robust network capital enables shadow education entrepreneurs not merely to survive market challenges but to thrive in highly competitive, dynamic environments. This resilience framework ultimately contributes to the sector's overall sustainability while enhancing educational outcomes for students and families served by these entrepreneurial ventures.

METHODS

A comprehensive literature search was conducted using Scopus and Google Scholar. Boolean search such as:

("entrepreneurial resilience" OR "entrepreneurship" OR "business resilience" OR "adaptive capacity") AND ("shadow education" OR "private tutoring" OR "supplementary education" OR "educational services") AND (owner* OR "institution owner" OR "business owner" OR "operator") AND (challenges OR "business challenges" OR "market dynamics" OR "economic pressures") AND (strategies OR "coping strategies" OR "adaptation" OR "innovation"). Date of 25 August 2025.

Keywords such as entrepreneurial resilience, shadow education, business owner, challenges, and innovation were utilized to collect relevant articles. Various article types, including original research, systematic reviews, meta-analyses, and case studies, were considered for this mini review.

Below, we present the inclusion and exclusion criteria for studies in this review.

Inclusion Criteria

1. **Studies discussing entrepreneurial resilience in shadow education entrepreneurs** emphasize that resilience is shaped by recovery strategies, leadership, emotional intelligence, educational aspects, and broader contextual factors such as policy frameworks, financial resources, and market volatility. These studies consistently underscore resilience as the capacity to adapt, innovate, and sustain learning in the face of uncertainty.
2. **Studies focusing on the application of digital and adaptive technologies in shadow education** highlight the critical roles of online platforms, AI-driven personalization, and analytics in enabling scalability and flexibility. While these tools enhance resilience, debates persist over reduced interpersonal engagement, ethical data use, and the widening digital divide, particularly for smaller-scale actors with fewer resources.
3. **Studies analyzing the strengths, limitations, and potential applications of entrepreneurial resilience** collectively demonstrate that resilience supports continuity of learning, protects employment, and drives pedagogical innovation. However, limitations include financial precarity, regulatory unpredictability, uneven access to leadership and EI training, and structural inequalities that disproportionately disadvantage smaller entrepreneurs. Potential applications include diversification of services, partnerships with schools, peer-support networks, and cooperative or association-based models that strengthen collective resilience.

Studies published in English

Exclusion Criteria

1. Studies published in languages other than English were excluded.
2. Studies that discuss shadow education or entrepreneurship without explicit reference to entrepreneurial resilience were excluded.
3. Grey literature (e.g., conference abstracts, unpublished reports) was excluded to ensure the quality and reliability of the review findings.

DISCUSSION AND RESULTS

Figure 1, generated by Scopus AI Analyzer, illustrates the conceptual map of entrepreneurial resilience among shadow education entrepreneurs, highlighting its interconnected themes. Core areas include recovery strategies,

the impact of COVID-19, leadership and emotional intelligence, educational aspects, and factors influencing resilience. These themes further branch into subdomains such as emotional intelligence skills, entrepreneurial leadership, social learning theory, adaptability, crisis management, and entrepreneurship education. Together, the figure emphasizes how resilience is shaped by both internal capabilities and external pressures, underscoring its multifaceted role in sustaining shadow education enterprises.

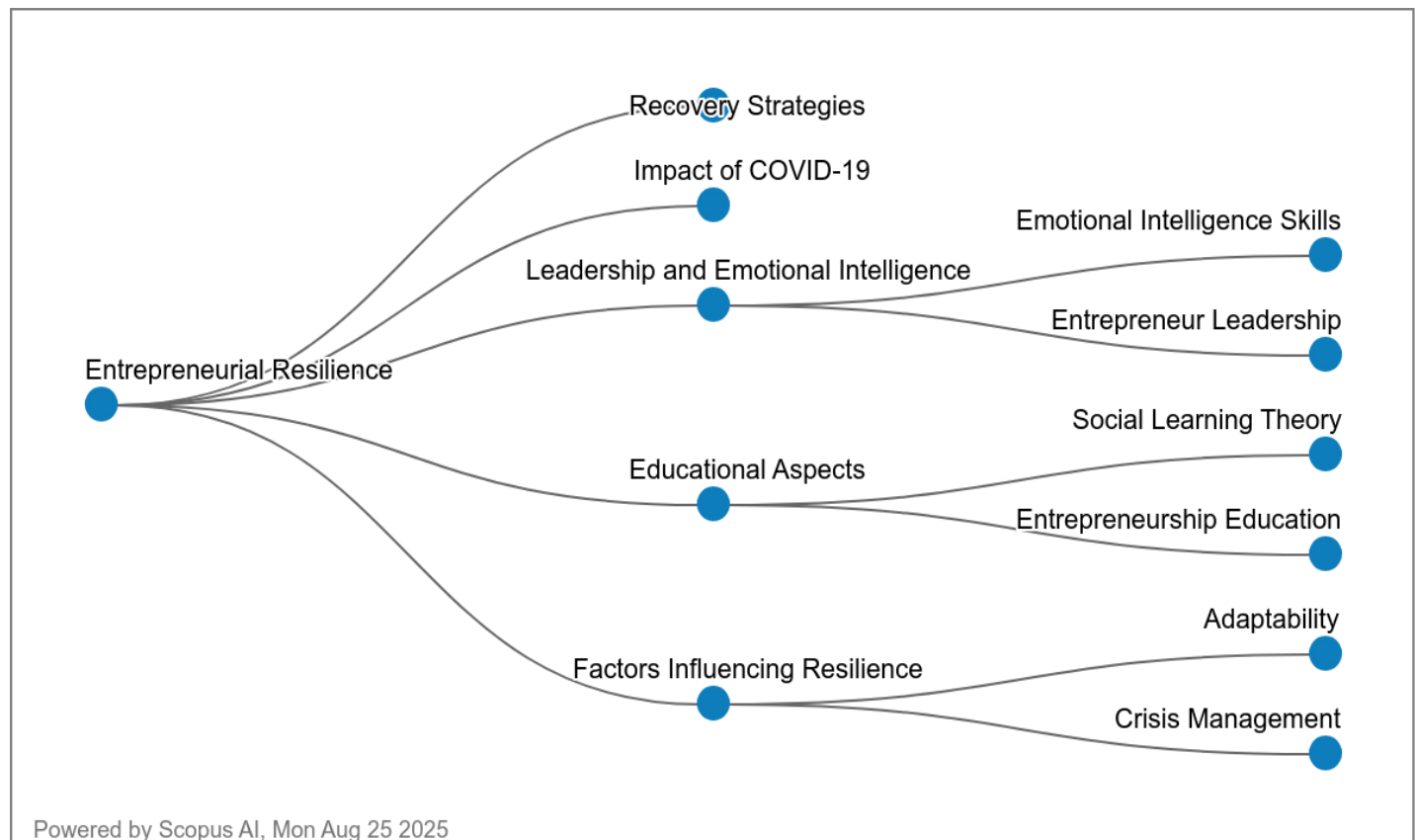


Figure 1: Entrepreneurial resilience of shadow education entrepreneurs generated by Scopus AI Analyzer

Current Status of Entrepreneurial Resilience of Shadow Education Entrepreneurs Based on Recovery Strategies

Shadow education entrepreneurs navigate volatile policy environments and shifting market demands, requiring exceptional resilience to sustain operations. This resilience manifests through strategic diversification, digital transformation, and network cultivation, enabling adaptation to regulatory changes such as China's "Double Reduction" policy. While resilient practices sustain educational access and drive innovation, they also pose challenges, including financial instability and ethical concerns about educational inequality. Technological integration enhances personalization through AI-driven systems. However, it raises privacy and algorithmic bias concerns. Current strategies often favor larger enterprises, disadvantaging smaller operators. Thus, future research must examine resilience as both individual adaptation and collective practice, emphasizing systemic solutions that balance innovation with equity considerations.

Current Status of Entrepreneurial Resilience of Shadow Education Entrepreneurs Based on the Impact of COVID-19

The COVID-19 pandemic fundamentally reshaped shadow education, compelling entrepreneurs to demonstrate unprecedented resilience through rapid digitalization and business model adaptation. Resilience is manifested through hybrid tutoring paradigms, service diversification, and technological integration, including AI-driven platforms, preserving educational continuity while accelerating pedagogical innovation. However, challenges persist, including regulatory uncertainty, financial vulnerability, and digital equity concerns. While larger enterprises successfully leveraged strategic partnerships and income diversification, smaller operators faced marginalization. In particular, research gaps exist regarding cross-cultural analyses and the psychological

wellbeing of entrepreneurs. Therefore, future scholarship must transcend individualistic resilience conceptualizations, emphasizing collective and ethically informed approaches that address structural inequities within evolving educational landscapes.

Current Status of Entrepreneurial Resilience of Shadow Education Entrepreneurs Based on Leadership and Emotional Intelligence

Entrepreneurial resilience in shadow education increasingly depends on integrating transformational leadership with emotional intelligence to create sustainable business foundations in volatile markets. Emotional intelligence develops critical interpersonal competencies, including empathy, self-awareness, and relationship-building capabilities, while effective leadership transforms these psychological resources into actionable strategies for team motivation and innovation cultivation. Research demonstrates that emotionally intelligent leadership enhances team cohesion, strengthens tutor-student dynamics, and improves crisis adaptation. However, challenges include uneven competency distribution and limited access to leadership development, particularly for smaller operations. Technology integration risks undermining authentic human connections essential to effective tutoring. Strategic approaches emphasize systematic emotional intelligence training, mentorship networks, and professional associations that embed leadership development principles.

Current Status of Entrepreneurial Resilience of Shadow Education Entrepreneurs Based on Educational Aspects

Entrepreneurial resilience represents an increasingly vital capacity for shadow education entrepreneurs seeking to sustain educational opportunities within uncertain regulatory and market environments. Grounded in adaptive capabilities and innovative problem-solving, resilience enables entrepreneurs to successfully navigate operational disruptions while maintaining continuity in supplementary tutoring provision. Emerging trajectories emphasize diversification toward hybrid delivery models, comprehensive digital integration, and competency-based learning approaches, though scholarly discourse remains contested regarding commercialization impacts and educational equity implications. While resilience cultivation generates benefits including preserved student access, sustained tutor employment, and accelerated pedagogical innovation, persistent challenges encompass financial vulnerability, regulatory unpredictability, and exacerbated socio-economic inequalities. Technological advancements enabled by digital platforms, adaptive learning systems, and sophisticated analytics enhance operational scalability and educational personalization, yet raise critical concerns about digital accessibility disparities, data ethics, and diminished interpersonal engagement. Accordingly, future research priorities should emphasize collective infrastructure development and equitable policy frameworks to foster sustainable, education-centered resilience.

Current Status of Entrepreneurial Resilience of Shadow Education Entrepreneurs Based on Factors Influencing Resilience

Entrepreneurial resilience is an essential capacity for shadow education entrepreneurs navigating competitive, uncertain educational markets while providing supplementary tutoring services. This multifaceted resilience emerges through interconnected factors, including leadership competencies, emotional intelligence, financial resources, regulatory stability, and technological adaptability, enabling entrepreneurs to overcome operational challenges and maintain educational continuity. Contemporary trajectories emphasize diversification toward hybrid models and competency-based frameworks alongside policy alignment, though scholarly discourse remains contested regarding the educational commercialization and its equity implications. While resilience generates benefits including sustained student access, preserved employment, and pedagogical innovation, challenges encompass financial vulnerability, regulatory unpredictability, and widening inequalities. Technological integration through digital platforms and adaptive systems enhances scalability yet raises concerns about diminished interpersonal engagement and digital disparities. Practical applications involve revenue diversification and institutional partnerships, though resource constraints disadvantage smaller operators. Future opportunities emphasize collective infrastructures and supportive frameworks that balance innovation with educational integrity.

Documents by year

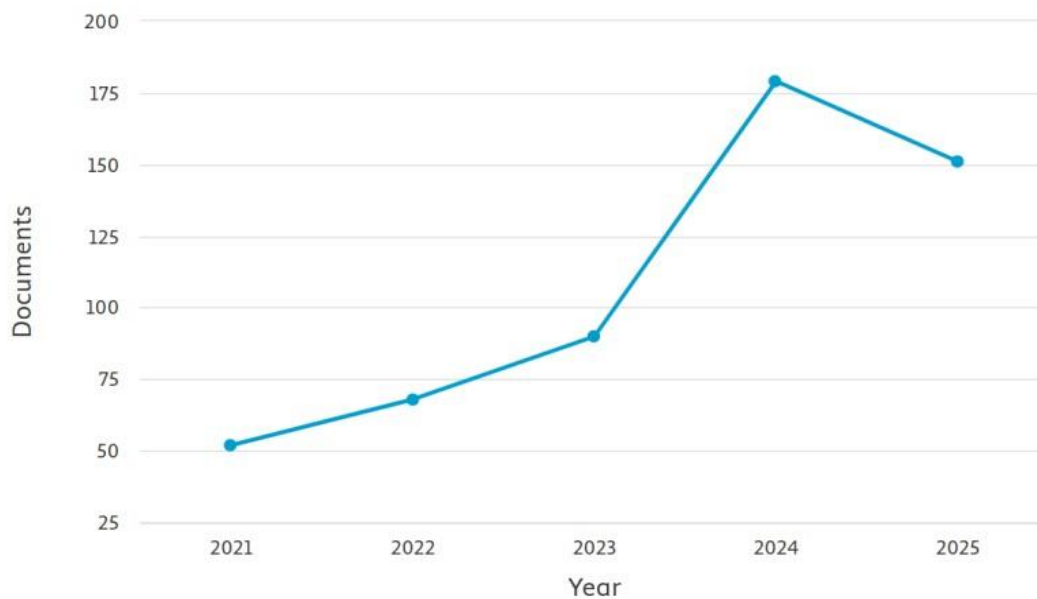


Figure 2: Analysis publication in five years (2021- 2025) by Scopus

Figure 2 presents the trend of publications on entrepreneurial resilience in shadow education from 2021 to 2025, based on Scopus data. The graph illustrates steady growth from around 50 documents in 2021 to nearly 90 in 2023, followed by a sharp rise peaking at approximately 180 documents in 2024. However, a slight decline is observed in 2025, with publications dropping to around 150. This trend reflects increasing scholarly interest in resilience and entrepreneurship, particularly during and after the COVID-19 pandemic, though attention appears to have moderated more recently.

Scholarly contributions on AI, resilience, and entrepreneurship, showcasing diverse applications across sectors, were highlighted recently in Table 1. Studies such as those by Ike et al. (2025), which focused on entrepreneurial alertness and personality traits influencing entrepreneurial intention, and by Ho et al. (2025), which emphasized the role of AI-driven big data analytics in fostering resilience through business model innovation. Broader contexts include resilience among tourism entrepreneurs (Ribeiro et al., 2025) and systematic reviews on factors shaping entrepreneurial success (Nazir & Das, 2025). Gendered perspectives are explored by Altinay et al. (2026) and Amato et al. (2025), addressing women's entrepreneurship and structural inequalities. Meanwhile, Branca et al. (2025) investigated personality traits and resilience among startups, while Simarasl et al. (2024) explored coping techniques for entrepreneurs in hardship. Importantly, Ganuthula (2025) introduced AI-enabled entrepreneurship theory, reframing resilience and sustainability in the digital era, and Vergara Romero et al. (2025) examined sustainable entrepreneurship within ecotourism. Collectively, these studies illustrate how entrepreneurial resilience is shaped by technology, psychology, social contexts, and systemic inequalities, offering critical insights relevant to shadow education entrepreneurs.

Table 1: Most recent research article journal on AI in the classroom

Authors (First Author et al.)	Year	Contribution Area
Ike O.O.; Okwuchukwu E.I.; Eyisi D.C.	2025	Entrepreneurial alertness as mediator between innovativeness, proactive personality, and entrepreneurial intention among undergraduates.
Ho D.B.; Duong C.D.; Tran M.L.; Luong T.S.; Tran T.P.H.	2025	Big data analytics (AI-driven) and entrepreneurial resilience; moderated mediation of technological turbulence and business model innovation.
Ribeiro M.A.; Adam I.; Kimbu A.N.; Dayour F.; Adeola O.; Tichaawa T.M.	2025	Coping strategies and resilience of tourism entrepreneurs in Sub-Saharan Africa, with a focus on subjective well-being under uncertainty.

Authors (First Author et al.)	Year	Contribution Area
Nazir J.; Das P.K.	2025	Systematic review of perception factors influencing entrepreneurial success (motivation, risk behavior, resilience, leadership, etc.).
Altinay L.; Toros E.; Vatankhah S.; Seyfi S.	2026	Women entrepreneurs in tourism as cultural custodians; resilience framed through social feminism theory.
Vergara Romero A.; Durán-Román J.L.; JIMBER-DEL RIO J.A.; ColladoGonzález J.C.	2025	Sustainable destination management and ecotourism entrepreneurship as strategies to mitigate overtourism.
Branca E.; Intenza M.; Doni F.	2025	Personality traits, prior experience, and entrepreneurial resilience in Italian startups.
Simarasl N.; Tabesh P.; Jessri M.	2024	Coping strategies and resilience-building techniques for entrepreneurs facing hardships.
Ganuthula V.R.R.	2025	AI-enabled individual entrepreneurship theory redefining resilience, scale, and sustainability in the digital age.
Amato M.; Coppola A.; Furno M.; Verneau F.	2025	Gender disparities in agricultural entrepreneurship; resilience shaped by structural inequalities in income and resources.

CONCLUSIONS

This mini review highlights entrepreneurial resilience as a critical driver of sustainability, adaptability, and innovation among shadow education entrepreneurs. This is particularly true in contexts shaped by recovery strategies, COVID-19 impacts, leadership and emotional intelligence, educational aspects, and broader factors influencing resilience. Evidence reveals that resilience enables entrepreneurs to sustain learning continuity, safeguard tutor employment, and foster pedagogical innovation through strategies such as digital adoption, diversification, and emotionally intelligent leadership. However, persistent challenges remain, including financial precarity, regulatory volatility, widening socio-economic inequalities, and ethical concerns related to digital technologies. Ongoing debates question whether resilience should be framed primarily as individual adaptability or as a collective, systemic response to structural inequities. At the same time, gaps exist in crosscultural analyses, attention to entrepreneurs' psychological well-being, and long-term assessments of technological impacts. Future research should move beyond individual survival strategies to emphasize collective infrastructure, equitable policies, and ethical technology integration. Practically, fostering professional associations, cooperatives, and supportive regulatory frameworks could help ensure that resilience sustains entrepreneurial activity and advances equity and inclusivity in the evolving landscape of shadow education. Future research on entrepreneurial resilience in shadow education should examine countries with diverse cultural, religious, and ethnic contexts, such as Malaysia, Indonesia, and India, where these factors may shape resilience in unique ways. Comparative cross-national studies would provide deeper insights into how such diversity influences entrepreneurial strategies and outcomes.

REFERENCES

1. Altinay, L., Toros, E., Vatankhah, S., & Seyfi, S. (2026). Women entrepreneurs as cultural custodians in tourism: A social feminism theory perspective. *Tourism Management*, 112, 105267.
2. Amato, M., Coppola, A., Furno, M., & Verneau, F. (2025). Gender disparities in agricultural entrepreneurship: evidence from Italy using FADN data. *Agricultural and Food Economics*, 13(1), 1-17.
3. Branca, E., Intenza, M., & Doni, F. (2025). Startup entrepreneurs' personality traits and resilience: unveiling the interplay of prior experience. *International Entrepreneurship and Management Journal*, 21(1), 2.
4. Ganuthula, V. R. R. (2025). AI-enabled individual entrepreneurship theory: redefining scale, capability, and sustainability in the digital age. *Journal of Innovation and Entrepreneurship*, 14(1), 85.
5. Ho, D. B., Duong, C. D., Tran, M. L., Luong, T. S., & Tran, T. P. H. (2025). Big data analytics powered by artificial intelligence and entrepreneurial resilience: A moderated mediation model of technological

- turbulence and business innovation model. *Journal of Open Innovation: Technology, Market, and Complexity*, 100611.
7. Hokmabadi, H., Rezvani, S. M., & de Matos, C. A. (2024). Business resilience for small and medium enterprises and startups by digital transformation and the role of marketing capabilities—A systematic review. *Systems*, 12(6), 220.
 8. Ike, O. O., Okwuchukwu, E. I., & Eyisi, D. C. (2025). Enhancing economic sustainability through entrepreneurial alertness as a mediator between innovativeness, proactive personality, and entrepreneurial intention among undergraduate students. *Discover Psychology*, 5(1), 56.
 9. Kai Liao, Y., Wu, W. Y., Dao, T. C., & Ngoc Luu, T. M. (2021). The influence of emotional intelligence and cultural adaptability on cross-cultural adjustment and performance with the mediating effect of crosscultural competence: A study of expatriates in Taiwan. *Sustainability*, 13(6), 3374.
 10. Kulkov, I., Kulkova, J., Rohrbeck, R., Menvielle, L., Kaartemo, V., & Makkonen, H. (2024). Artificial intelligence-driven sustainable development: Examining organizational, technical, and processing approaches to achieving global goals. *Sustainable Development*, 32(3), 2253-2267.
 11. Kumaravel, S. K., Murugesan, R., Nagaram, N. B., Mohan, K. R., & Rasappan, S. (2024). Understanding shadow education: A comprehensive exploration of its global phenomenon. In *Shadow Education in Asia: Policies and Practices* (pp. 11-23). IGI Global.
 12. Li, S., & Sanusi, E. S. (2025). Pull motivation and well-being as drivers of entrepreneurial success: The moderating role of social capital. *PLoS One*, 20(8), e0327894.
 13. Nazir, J., & Das, P. K. (2025). A systematic literature review on factors of perception impacting entrepreneurial success based on PRISMA framework. *Journal of Innovation and*
 14. *Entrepreneurship*, 14(1), 49.
 15. Nosike, C. J., Ojobor, O. S. N., & Nosike, C. U. (2024). Enhancing business resilience: Innovation and adaptation during and after the global pandemic. *International Journal of Financial, Accounting, and Management*, 6(2), 217-229.
 16. Perkins, J., Nelson, S., Birley, E., Mcswiggan, E., Dozier, M., McCarthy, A., ... & Street, A. (2024). Is qualitative social research in global health fulfilling its potential?: a systematic evidence mapping of research on point-of-care testing in low-and middle-income contexts. *BMC Health Services Research*, 24(1), 172.
 17. Rasiah, R., Kaur, H., & Guptan, V. (2020). Business continuity plan in the higher education industry: University students' perceptions of the effectiveness of academic continuity plans during COVID-19 pandemic. *Applied System Innovation*, 3(4), 51.
 18. Ribeiro, M. A., Adam, I., Kimbu, A. N., Dayour, F., Adeola, O., & Tichaawa, T. M. (2025). Resilience in uncertainty: The impact of coping strategies on tourism entrepreneurs' subjective well-being in subSaharan Africa. *Tourism management*, 110, 105169.
 19. Simarasl, N., Tabesh, P., & Jessri, M. (2024). Navigating hardships: Resilience-building coping strategies and actionable techniques for entrepreneurs. *Business Horizons*.
 20. Tian, X., Zhao, C., & Ge, X. (2022). Entrepreneurial traits, relational capital, and social enterprise performance: Regulatory effects of cognitive legitimacy. *Sustainability*, 14(6), 3336.
 21. Vergara Romero, A., Durán-Román, J. L., JIMBER-DEL RIO, J. A., & Collado-González, J. C. (2025). Business management of sustainable destinations and its effect on ecotourism entrepreneurship to mitigate overtourism. *Humanities and Social Sciences Communications*, 12(1), 1-8.