

-RESEARCH ARTICLE-

WEATHERING THE STORM WITH ENTREPRENEURIAL RESILIENCE: A BIBLIOMETRIC LITERATURE REVIEW

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—Abstract—

This study seeks to advance academic insight into Entrepreneurial Coping Strategies (ECS) by integrating prior scholarship, highlighting emerging thematic patterns, and identifying research gaps that warrant future exploration within this domain. In alignment with PRISMA guidelines for article selection, this research utilises bibliometric techniques through VOSviewer and Bibliometrix R. A systematic literature review (SLR) was subsequently undertaken to examine the ECS landscape. The data set comprises 88 peer-reviewed articles published between 1992 and 2024, sourced from the Web of Science database and spanning 20 leading journals in entrepreneurship and management. Employing both performance metrics and science mapping, the study reveals prevailing trajectories in ECS research. Based on these findings, it proposes future avenues for inquiry and identifies areas where

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significant advancements may be achieved. The results indicate that ECS has transitioned from being a subsidiary element within entrepreneurial studies to forming a distinct and substantive field, underpinned by its own theoretical constructs, conceptual models, and methodological approaches. Notably, the prominence of Entrepreneurial Resilience (ER) has intensified in recent literature. The analysis categorises entrepreneurial challenges into regional and organisational contexts, proposing a dual-phase coping mechanism: an initial emotional response followed by a behavioural adjustment. Each phase encompasses strategies aligned with one of three overarching coping typologies. While the specific strategies and patterns vary, all entrepreneurs demonstrated ER across three hierarchical levels, suggesting that coping strategies and behavioural patterns represent observable outcomes, whereas ER constitutes a core internal capability essential for navigating adversity. By combining bibliometric analysis with SLR, this review captures the development of ECS over the past thirty years, tracing its progression from psychological adaptations to tangible behavioural practices. The bibliometric component underscores an increased scholarly focus on ER in the aftermath of the COVID-19 pandemic, offering empirical insights grounded in data. Concurrently, the SLR provides the theoretical scaffolding for a conceptual model of entrepreneurial coping with adversity. This dual approach enables a comprehensive mapping of the field's evolution while also identifying three key research gaps and associated underexplored dimensions pertaining to ER.

Keywords: Entrepreneurial Coping Strategies, Entrepreneurial Resilience, Bibliometric Analysis, Systematic Literature Review (SLR), PRISMA.

INTRODUCTION

Entrepreneurial contexts are frequently characterised by the need to manage unforeseen challenges alongside continual change (Ricciardi, Rossignoli, & Zardini, 2021). Rising inequality, limited access to resources, unpredictable crises, and the resulting psychological strain have further exacerbated the uncertainties faced by entrepreneurs (Fisher et al., 2020). Persistent unpredictability and stress tend to negatively influence the mental well-being of entrepreneurs over time. Kibler et al. (2024) emphasised that such psychological difficulties have a direct adverse effect on business performance. Notably, the pressure experienced by entrepreneurs stems more from their reactions to these challenges than from the uncertainties or problems themselves (St-Jean & Tremblay, 2023). Research by Wach et al. (2021) revealed that entrepreneurs operating in environments with limited resources and high competition are particularly vulnerable to declining mental health. As noted by St-Jean and Tremblay (2023), such psychological pressures may also impair decision-making quality and reduce long-term performance outcomes.

The present study seeks to identify practical strategies that entrepreneurs can adopt to manage challenges more effectively, alleviate stress, and ultimately improve business outcomes. In this regard, ECS has received increasing attention within the academic community (Pathak & Goltz, 2021). Foundational work by Bruno, McQuarrie and Torgrimson (1992) on ECS failures argued that factors beyond financial concerns—namely legal, relational, and personal elements—are also significant contributors to entrepreneurial crises. This perspective has informed subsequent investigations into entrepreneurial learning, opportunity recognition and exploitation (Riar, Bican, & Fischer, 2021), as well as identity reconstruction (Byrne, 2021). Despite the volume of research, it is evident that entrepreneurs typically draw upon multiple strategies rather than relying on a single approach when facing adversity. This multidimensional response is referred to as the coping pattern (St-Jean & Tremblay, 2023), which comprises two primary components: stability and flexibility (Lischetzke et al., 2022). Stability pertains to the ability to sustain consistent emotional and behavioural responses, whereas flexibility involves adjusting strategies to suit varying contexts, thereby enhancing resilience and adaptability.

The field of coping strategies remains fragmented, largely due to the diverse themes investigated across earlier studies. According to St-Jean and Tremblay (2023), experienced entrepreneurs possess the capacity to select appropriate strategies based on the context, alternating between proactive and avoidant approaches to navigate uncertainty and safeguard mental health. Other scholarly contributions have examined the linkage between resource mobilisation and entrepreneurial opportunity. For example, Hundera et al. (2021) reported that female entrepreneurs in developing regions often rely on social support networks to mitigate role conflict. Similarly, Abd Hamid et al. (2023) observed that transnational underdog entrepreneurs tend to leverage their socio-cultural awareness to identify nuanced market signals, akin to an “antenna”, thereby enabling the detection of promising opportunities.

Given the rapid expansion of ECS as a research field, there is a growing need to systematically analyse the existing literature to assess its development and identify areas warranting further inquiry (Arabiun et al., 2023). The current study employs bibliometric techniques to chart the intellectual foundations of the ECS domain and trace its progression over time. This review addresses three central questions: (1) How has ECS research evolved over time? (2) What are the predominant thematic areas of focus? (3) Which research directions remain underexplored? The structure of this paper is as follows: Section 2 outlines the methodology for bibliometric analysis. Section 3 presents the results derived from performance metrics and science mapping. Section 4 interprets the findings and suggests future research pathways. Section 5 concludes by summarising the study’s key contributions.

PROCEDURE

A literature review plays a vital role in clarifying both the progression of a research domain and the existing gaps in scholarly understanding (Arabiun et al., 2023). In this study, the PRISMA framework was employed to systematically select relevant publications for a comprehensive examination of the ECS field. This approach offers greater efficiency and reduced manual effort compared to conventional systematic reviews. In parallel, bibliometric analysis was also applied to organise and present the research findings. The PRISMA methodology improves review transparency and enhances the breadth of literature coverage by using a structured flowchart checklist (Page et al., 2021). On the other hand, bibliometric techniques provide a quantitative and objective perspective by evaluating various research components such as publication counts, author contributions, journal sources, keywords, and other pertinent indicators (Donthu et al., 2021). Moreover, bibliometric analysis reveals implicit trends and the intellectual development of a field through its capacity to assess the performance of research elements, the interconnections among bibliometric data, and the underlying knowledge structure. These insights are drawn from both performance evaluation and scientific mapping processes (Donthu et al., 2021). Accordingly, this study integrates both methodologies to achieve a comprehensive coverage of the ECS literature, aiming to uncover scientific patterns and inform both present understanding and future research trajectories.

The dataset utilised in this research was extracted from the Web of Science (WoS) database, a widely recognised source of high-quality academic content that is well suited for bibliometric investigation due to its rich metadata and established scholarly value (Akbari et al., 2020). The overall procedure for bibliometric analysis is illustrated in Figure 1. In particular, Step 3 follows the PRISMA flowchart, detailing the identification, screening, and selection of articles included in the review, along with justifications for the exclusion of certain studies. This study identified the keywords “entrepreneur* resilien*”, “adapt*” and “advers*” to search for TOPIC (title, abstract, or keywords), ensuring the inclusion of all relevant articles. Accordingly, the advanced search was executed with the following string: “TS=(“entrepreneur* resilien*” OR resilien*) OR TS=(entrepreneur AND adapt* OR recover* OR overcome OR rebound OR coping) AND TS=(entrepreneur* AND advers* OR stress OR failure)”. The total number of documents discovered was 549,861.

This review concentrates solely on prestigious and high-ranking journals in the field of entrepreneurship, along with select influential management journals that contribute significantly to the discourse on ECS and influence the evolution of the field. The following 14 scholarly publications are recognized as prominent sources, namely “Entrepreneurship Theory and Practice” (ETP), “Entrepreneurship and Regional Development” (ERD), “International Small Business Journal” (ISBJ), “Journal of Business Venturing” (JBV), “Journal of International Entrepreneurship” (JIE), “Journal

of Small Business Management” (JSBM), “Small Business Economics” (SBE), “Strategic Entrepreneurship Journal” (SEJ), “Academy of Management Journal” (AMJ), “Journal of Management Studies” (JMS), “International Entrepreneurship and Management Journal” (IEMJ), “Journal of Management” (JM), “Journal of Business Research” (JBR), and “Strategic Management Journal” (SMJ). Based on this criterion, a total of 424,717 journal articles published between 1992 and 2024 were initially retrieved.

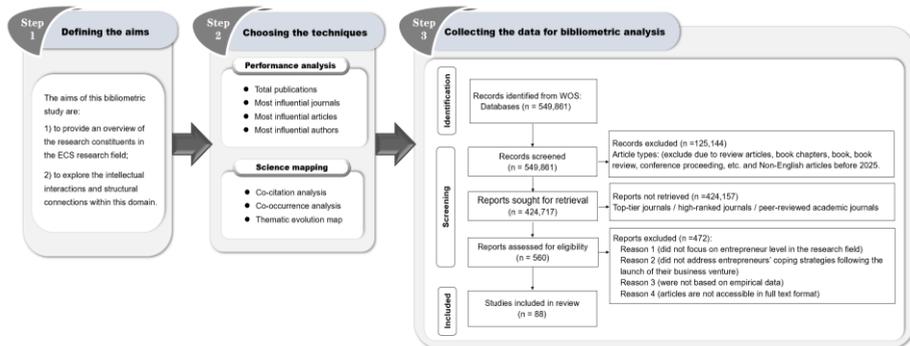


Figure 1: The Bibliometric Analysis Procedure Integrating the PRISMA Approach.

Subsequently, further inclusion and exclusion criteria were formulated. To clearly define the scope of this study, the definition of ECS was adopted as the guiding framework, referring specifically to the responses of individual entrepreneurs in managing the complex challenges associated with operating and sustaining a business venture (Ramli et al., 2023). This perspective centres on examining empirical research focused on how entrepreneurs at the individual level confront and address business-related problems. By narrowing the focus to individual-level coping strategies, the study intentionally differentiates these from broader organisational practices and literature on business failure, thereby clarifying the micro-level dynamics of entrepreneurial coping. Abstracts were manually reviewed, and non-relevant studies were eliminated, resulting in a refined dataset comprising 88 articles.

Drawing upon this final dataset, performance analysis and science mapping were undertaken, and the findings were presented using bibliometric visualisations in the form of figures and tables. Performance analysis offers quantitative insights into the contributions of various research elements, while science mapping explores the relationships among them (Donthu et al., 2021). Furthermore, science mapping reveals both the bibliometric structure and intellectual underpinnings of the field (Arabian et al., 2023), employing methods such as co-citation analysis, co-occurrence analysis, and co-author analysis. In the current study, co-citation and co-occurrence analyses were employed to identify the core conceptual foundations of ECS. Co-citation analysis focuses on the most frequently cited sources to uncover seminal works within the field (Donthu et al., 2021), whereas co-occurrence analysis determines dominant research

themes by assessing the frequency with which key terms appear together across the dataset (Arabiun et al., 2023). Additionally, network visualisation tools from both VOSviewer and the Bibliometrix R package were used to enhance the interpretation and presentation of the bibliometric results.

RESULTS

Bibliometric Performance of ECS Literature

Performance analysis within bibliometric research is predominantly regarded as descriptive in nature (Donthu et al., 2021), serving to highlight the extent to which various research constituents contribute to the development of a particular academic field (Zhang & Liu, 2023). In this section, the analysis of the dataset's performance is presented, functioning analogously to the demographic or background profiles typically reported in empirical research studies (Donthu et al., 2021).

Total Publications

A clear and sustained growth trajectory is evident in ECS-related research, with particularly notable expansion in recent years. As illustrated in Figure 2, this development can be categorised into three distinct phases. The first phase, spanning from 1992 to 2007, comprises only 2 of the 88 articles reviewed, representing approximately 2% of the total output. During the second phase (2008 to 2019), there is a substantial rise in publication activity, with output increasing by more than 28%. The third phase, beginning in 2019, reflects a significant acceleration in scholarly interest, accounting for nearly two-thirds of all identified publications.

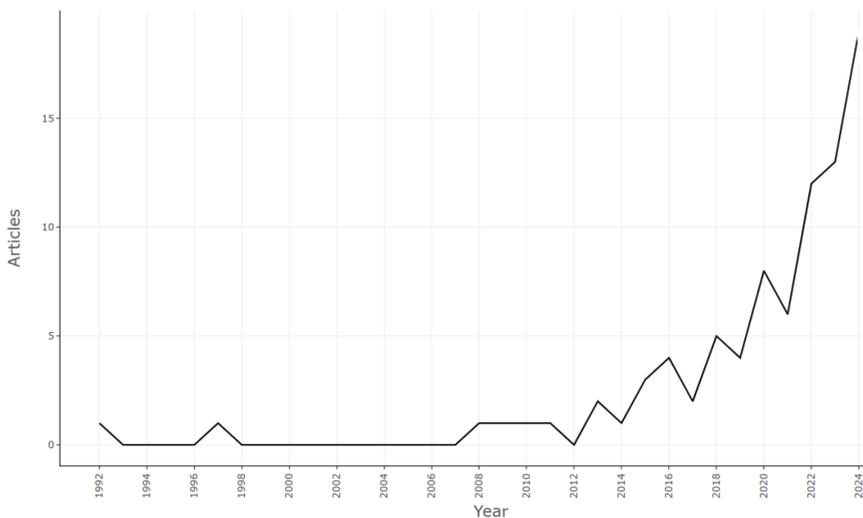


Figure 2: Number of Publications Per Year on Entrepreneurial Coping Strategies Field.

The growth trend in ECS research, particularly noticeable since 2008, can be attributed to at least two primary factors. Firstly, the global financial downturn in 2008, commonly referred to as the Great Recession, prompted an upsurge in academic interest. This momentum was further accelerated by the onset of the COVID-19 pandemic in early 2020. As a result, scholarly focus on how entrepreneurs navigate adverse conditions through coping strategies has significantly intensified. Concurrently, the ECS field has achieved greater theoretical maturity, informed by an increasing body of literature examining accessible resources and the entrepreneurship thought–action repertoire (Williams, Li, & Zhao, 2025). Scholars have explored the behavioural responses of entrepreneurs under resource-scarce conditions (St-Jean & Tremblay, 2023), including studies such as that by Fisher et al. (2020), which examined entrepreneurial cognition and the practice of resource bricolage, highlighting the influential role of positive emotions. These findings introduce a novel perspective on short-term variations in the entrepreneurial experience, challenging the notion that consistent traits or stable personal qualities are the primary determinants of entrepreneurial outcomes.

Given the combination of contextual adversity and increased scholarly attention, ECS has evolved meaningfully in both theoretical and empirical dimensions. It is now widely recognised that firm performance does not necessarily follow a linear trajectory of sustained growth; rather, it may encompass temporary periods of expansion, equilibrium, or even decline. In this regard, Weinberger et al. (2018) advanced a “state” perspective within entrepreneurial creativity theory, shifting the narrative away from a fixed-trait understanding of creativity. This state-based view underscores the fluctuating nature of entrepreneurial creativity and draws attention to the significance of the recovery process in shaping both individual entrepreneurs and their enterprises.

Psychological frameworks, such as Fredrickson’s broaden-and-build theory and the Conservation of Resources (COR) theory, have featured prominently in ECS literature. The broaden-and-build theory highlights the function of positive emotions in expanding cognitive and behavioural capacity, while also supporting the development of durable skills and resources over time (Aust et al., 2024). Meanwhile, COR theory focuses on the adversity and strain entrepreneurs experience through cycles of resource investment and loss, and underscores the critical role of resource acquisition, maintenance, and reinvestment (St-Jean & Tremblay, 2023). From the perspective of entrepreneurial sociology, research has investigated how social norms influence entrepreneurial action, including through the use of digital technologies (Cueto et al., 2022). The concept of bricolage is particularly relevant in contexts where entrepreneurs are disadvantaged. In such settings, individuals creatively repurpose undervalued material resources, overlooked social assets, and underutilised institutional structures to generate new value (Abd Hamid et al., 2023). This process reflects how, within resource-constrained environments, innovation emerges through novel recombination’s of available elements.

Most Influential Journals

To evaluate the contributions of various constituents within the ECS domain, two primary performance metrics are utilised: the annual number of publications, indicating productivity, and citation counts, which reflect scholarly impact (Donthu et al., 2021). This analysis concentrates on 14 highly ranked journals in entrepreneurship and management, as listed in Table 1. These journals are ranked based on the number of ECS-related publications and total citations (TC), serving as measures of their influence in the field. Table 1 also includes further indicators such as the h-index, citation per publication (CPP), and other relevant metrics. In terms of output, JBV stands out as the most productive journal, contributing 15 articles, which represents 17% of the total dataset. Its influence is further corroborated by the TC metric, which affirms JBV’s leading role in shaping ECS research. Another significant indicator is the h-index calculated for ECS-specific publications across the 14 journals, referred to here as HECS. According to this metric, JBV ranks highest, securing the top position with 11 citations. When evaluating CPP, JM and AMJ occupy the first and second positions, respectively. Despite having a comparatively smaller number of ECS publications, both journals exhibit exceptional impact, with each article receiving more than 150 citations on average.

Table 1: High-Impact and Prolific Journals in the Field of ECS Research.

R	Sources	No. of Publications	%	TC	h index (HECS)	CPP (TC/NP)	≥150	≥60	≥30
1	JBV	15	17%	1044	11	70	2	6	1
2	JBR	14	16%	450	9	32	0	4	1
3	ISBJ	11	13%	567	6	52	1	3	1
4	ETP	10	11%	412	9	41	0	3	1
5	ERD	10	11%	270	6	27	0	2	3
6	SBE	8	9%	109	4	14	0	0	2
7	JSBM	5	6%	37	4	7	0	0	0
8	AMJ	4	5%	527	3	132	2	0	0
9	IEMJ	3	3%	84	1	28	0	1	0
10	JIE	3	3%	25	1	8	0	0	0
11	SMJ	2	2%	235	2	118	1	0	0
12	JM	1	1%	283	1	283	1	0	0
13	JMS	1	1%	82	1	82	0	1	0
14	SEJ	1	1%	100	1	100	0	1	0

Most Cited Articles

In academic research, citations are a commonly adopted metric for assessing the quality, significance, and influence of scholarly publications within a given field (Mustafa et al., 2023). Table 2 identifies the 20 most cited publications in the ECS domain. Among

these, the study by [Baron, Franklin and Hmieleski \(2016\)](#) emerges as the most influential, with more than 283 citations. Drawing on the Attraction-Selection-Attrition (ASA) theory, this study integrates the concept of psychological resources, demonstrating that entrepreneurs who effectively manage stress typically rely on psychological assets such as self-efficacy, optimism, hope, and resilience. These elements are presented as essential mechanisms for mitigating stress in entrepreneurial settings. The study provides foundational insights that have informed subsequent research focused on individual recovery from stress-related challenges ([Murnieks et al., 2020](#); [Wach et al., 2021](#); [Weinberger et al., 2018](#)). A temporal analysis of the most cited works reveals that Phase 2 contains 14 of the top 20 cited articles, while Phase 3 includes only five. This pattern highlights 2008 as a critical inflection point in the trajectory of ECS research development.

Table 2: Top-Cited Articles in the ECS Field.

R	Article	Journal	Year	TC	TCY
1	Baron, R. A., Franklin, R. J., & Hmieleski, K. M. (2016). Why entrepreneurs often experience low, not high, levels of stress: The joint effects of selection and psychological capital. <i>Journal of Management</i> , 42(3), 742-768.	JM	2016	283	28.30
2	Williams, T. A., & Shepherd, D. A. (2016). Building resilience or providing sustenance: Different paths of emergent ventures in the aftermath of the Haiti earthquake. <i>Academy of Management Journal</i> , 59(6), 2069-2102.	AMJ	2016	279	27.90
3	Hayward, M. L., Forster, W. R., Sarasvathy, S. D., & Fredrickson, B. L. (2010). Beyond hubris: How highly confident entrepreneurs rebound to venture again. <i>Journal of Business Venturing</i> , 25(6), 569-578.	JBV	2010	244	15.25
4	Powell, E. E., & Baker, T. (2014). It's what you make of it: Founder identity and enacting strategic responses to adversity. <i>Academy of Management Journal</i> , 57(5), 1406-1433.	AMJ	2014	237	19.75
5	Gao, C., Zuzul, T., Jones, G., & Khanna, T. (2017). Overcoming institutional voids: A reputation-based view of long-run survival. <i>Strategic Management Journal</i> , 38(11), 2147-2167.	SMJ	2017	211	23.44
6	Cowling, M., Brown, R., & Rocha, A. (2020). Did you save some cash for a rainy COVID-19 day? The crisis and SMEs. <i>International Small Business Journal</i> , 38(7), 593-604.	ISBJ	2020	157	26.17
7	Uy, M. A., Foo, M. D., & Song, Z. (2013). Joint effects of prior start-up experience and coping strategies on entrepreneurs' psychological well-being. <i>Journal of business venturing</i> , 28(5), 583-597.	JBV	2013	152	11.69

8	Shepherd, D. A., Covin, J. G., & Kuratko, D. F. (2009). Project failure from corporate entrepreneurship: Managing the grief process. <i>Journal of business venturing</i> , 24(6), 588-600.	JBV	2009	142	8.35
9	Doern, R. (2016). Entrepreneurship and crisis management: The experiences of small businesses during the London 2011 riots. <i>International small business journal</i> , 34(3), 276-302.	ISBJ	2016	140	14.00
10	Davidsson, P., & Gordon, S. R. (2016). Much ado about nothing? The surprising persistence of nascent entrepreneurs through macroeconomic crisis. <i>Entrepreneurship Theory and Practice</i> , 40(4), 915-941.	ETP	2016	123	12.30
11	Storey, D. J. (2011). Optimism and chance: The elephants in the entrepreneurship room. <i>International Small Business Journal</i> , 29(4), 303-321.	ISBJ	2011	120	8.00
12	Chen, M. H., Chang, Y. Y., & Lee, C. Y. (2015). Creative entrepreneurs' guanxi networks and success: Information and resource. <i>Journal of Business Research</i> , 68(4), 900-905.	JBR	2015	110	10.00
13	Salvato, C., Sargiacomo, M., Amore, M. D., & Minichilli, A. (2020). Natural disasters as a source of entrepreneurial opportunity: Family business resilience after an earthquake. <i>Strategic Entrepreneurship Journal</i> , 14(4), 594-615.	SEJ	2020	100	16.67
14	Weinberger, E., Wach, D., Stephan, U., & Wegge, J. (2018). Having a creative day: Understanding entrepreneurs' daily idea generation through a recovery lens. <i>Journal of Business Venturing</i> , 33(1), 1-19.	JBV	2018	91	11.38
15	Teoh, H. Y., & Foo, S. L. (1997). Moderating effects of tolerance for ambiguity and risktaking propensity on the role conflict-perceived performance relationship: Evidence from Singaporean entrepreneurs. <i>Journal of business Venturing</i> , 12(1), 67-81.	JBV	1997	88	3.03
16	Shepherd, D. A., Saade, F. P., & Wincent, J. (2020). How to circumvent adversity? Refugee-entrepreneurs' resilience in the face of substantial and persistent adversity. <i>Journal of Business Venturing</i> , 35(4), 105940.	JBV	2020	87	14.50
17	Wach, D., Stephan, U., Weinberger, E., & Wegge, J. (2021). Entrepreneurs' stressors and well-being: A recovery perspective and diary study. <i>Journal of Business Venturing</i> , 36(5), 106016.	JBV	2021	85	17.00
18	Corner, P. D., Singh, S., & Pavlovich, K. (2017). Entrepreneurial resilience and venture failure. <i>International Small Business Journal</i> , 35(6), 687-708.	ISBJ	2017	85	9.44
19	Fisher, G., Stevenson, R., Neubert, E., Burnell, D., & Kuratko, D. F. (2020). Entrepreneurial hustle: Navigating uncertainty and enrolling venture stakeholders through urgent and unorthodox action. <i>Journal of Management Studies</i> , 57(5), 1002-1036.	JMS	2020	82	13.67
20	Duchek, S. (2018). Entrepreneurial resilience: a biographical analysis of successful entrepreneurs. <i>International Entrepreneurship and Management Journal</i> , 14(2), 429-455.	IEMJ	2018	82	10.25

In addition to TC, this study also incorporates Total Citations Per Year (TCY), presented in the final column of [Table 2](#). This metric, calculated by dividing an article's TC by the number of years since its publication, reduces the influence of publication age on citation count. According to TCY, the article "Did you save some cash for a rainy COVID-19 day?" by [Cowling, Brown and Rocha \(2020\)](#) ranks third in influence, improving upon its sixth position based on TC. Accordingly, this study is considered a key contribution in Phase 3. Notably, more than half of the most influential articles—specifically seven—were published in *JBV*, highlighting its pivotal role in ECS research. Furthermore, although *JM* and *AMJ* have fewer publications than *JBV*, the articles published in these journals demonstrate substantial influence, ranking first and second respectively in average citation impact within the ECS field.

The Most Productive and Influential Authors

To determine scholarly influence within the ECS domain, this study evaluated researchers based on their TP and TC. As outlined in [Table 3](#), the ten most prolific authors have made substantial contributions to the advancement of the field. Dean A. Shepherd ranks first, having produced four articles that have collectively received a TC of 526. He is closely followed by Ute Stephan and Donald F. Kuratko. Notably, Stephan, Wach, Wegge, and Weinberger frequently collaborate as a research team. Their co-authored work, titled "Entrepreneurs' stressors and well-being", stands out as one of the most highly cited publications, signifying a major contribution during the third phase of ECS research. In terms of CPP, Wegge and Weinberger are ranked second, each achieving a score of 88. In collaboration with Stephan, they have played a pivotal role in initiating investigations into entrepreneurs' recovery processes, employing diary analysis as a methodological approach ([Wach et al., 2021](#); [Weinberger et al., 2018](#)).

Table 3: Highly Productive and Influential Authors in the ECS Field.

R	Author	Start Publication Year	TP	TC	CPP (TC/NP)
1	Dean A. Shepherd	2009	4	526	132
2	Ute Stephan	2018	4	203	51
3	Donald F. Kuratko	2009	3	257	86
4	Dominika Wach	2018	3	201	67
5	Maw Der Foo	2013	3	168	56
6	Wei Yu	2022	3	21	7
7	Jürgen Wegge	2018	2	176	88.0
8	Eva Weinberger	2018	2	176	88.0
9	Ross Brown	2020	2	157	79
10	Johan Wiklund	2022	2	37	18.5

The initial phase of ECS development contributed only marginally to the overall volume of research, with a substantial rise in scholarly activity emerging after 2008. This upward trajectory appears to be influenced by the emphasis on resilience during crisis

response, as explored by [Williams and Shepherd \(2016\)](#). By synthesising the entrepreneurial constructs of opportunity identification and resource integration with the concept of resilience, these authors proposed a model of entrepreneurial disaster resilience, illustrating how varying forms of entrepreneurial action affect resilience outcomes following crises. Their work highlighted how resilience motivates entrepreneurs to engage in self-directed and autonomous activities, thereby encouraging further exploration into ECS through the lenses of cognitive, behavioural, and emotional adaptability ([Branzei & Fathallah, 2023](#); [Ho & Teo, 2022](#)). Moreover, the emergence of three new contributors to ECS literature during Phase III indicates that the onset of COVID-19 has broadened the thematic range of research within the field.

Science Mapping of the ESC Field

The preceding subsection examined the performance of the ECS field by employing key bibliometric indicators, including publication volume, citation counts, and citation-publication metrics such as the h-index and CPP. Building upon this analysis, the subsequent section shifts focus towards mapping the intellectual structure of the field by exploring the research constituents. This is achieved through co-citation, co-occurrence, and thematic analyses, which collectively illuminate the underlying scholarly interactions and conceptual linkages within ECS research.

Co-Citation Analysis

The most frequently cited references denote foundational contributions and pivotal authors whose work forms the core knowledge base of a given discipline ([Arabiun et al., 2023](#)). Within the context of ECS research, the analysis of these references illustrates the significant theoretical and conceptual underpinnings that have shaped the field. This study examined a dataset comprising 5,234 references, from which the 15 most frequently cited works were identified. Moreover, the analysis includes the total strength of co-citation linkages among these references, thereby offering insight into the structural relationships and intellectual cohesion within ECS scholarship, as detailed in [Table 4](#).

The most frequently cited reference within the dataset is the study by [Bullough, Renko and Myatt \(2014\)](#), which pioneered investigations into entrepreneurial decision-making processes driven by resilience, specifically at the individual level during periods of adversity. The second most cited work is [Williams and Shepherd \(2016\)](#), titled “Building resilience or providing sustenance,” which employed an interpretative case study approach to explore crisis management within resource-limited settings. This research focused on how ventures access, integrate, and deploy resources in post-disaster contexts. Notably, this publication holds dual recognition in the dataset: it appears as the most cited article among the 88 selected ECS studies and simultaneously ranks as the most frequently referenced work within the broader compilation of 5,234 ECS-related citations.

Table 4: Top-Ranked References by Citation Count in the ECS Field.

R	Reference	Citations	Total Link Strength
1	Bullough, A., Renko, M., & Myatt, T. (2014). Danger zone entrepreneurs: the importance of resilience and self-efficacy for entrepreneurial intentions. <i>Entrepreneurship Theory and Practice</i> , 38(3), 473-499.	21	94
2	Williams, T. A., & Shepherd, D. A. (2016). Building resilience or providing sustenance: different paths of emergent ventures in the aftermath of the Haiti earthquake. <i>Academy of Management Journal</i> , 59(6), 2069-2102.	16	76
3	Baker, T., & Nelson, R. E. (2005). Creating something from nothing: resource construction through entrepreneurial bricolage. <i>Administrative Science Quarterly</i> , 50(3), 329-366.	14	52
4	McMullen, J. S., & Shepherd, D. A. (2006). Entrepreneurial action and the role of uncertainty in the theory of the entrepreneur. <i>Academy of Management Review</i> , 31(1), 132-152.	14	49
5	Shepherd, D. A. (2003). Learning from business failure: propositions of grief recovery for the self-employed. <i>Academy of Management Review</i> , 28(2), 318-328.	14	33
6	Sutcliffe, K. M. and T. J. Vogus (2003), "Organizing for resilience", in Cameron, K. S., Dutton, J. E., and Quinn, R. E. (Eds.), <i>Positive Organizational Scholarship: Foundations of a New Discipline</i> , Berrett-Koehler, San Francisco, CA, pp. 94-110.	14	68
7	Williams, T. A., Gruber, D. A., Sutcliffe, K. M., Shepherd, D. A., & Zhao, E. Y. (2017). Organizational response to adversity: fusing crisis management and resilience research streams. <i>Academy of Management Annals</i> , 11(2), 733-769.	13	61
8	Ayala, J. C., & Manzano, G. (2014). The resilience of the entrepreneur. Influence on the success of the business. A longitudinal analysis. <i>Journal of Economic Psychology</i> , 42, 126-135.	12	54

9	Bullough, A., & Renko, M. (2013). Entrepreneurial resilience during challenging times. <i>Business Horizons</i> , 56(3), 343-350.	12	65
10	Eisenhardt, K. M. (1989). Building theories from case study research. <i>Academy of Management Review</i> , 14(4), 532-550.	11	39
11	Jenkins, A. S., Wiklund, J., & Brundin, E. (2014). Individual responses to firm failure: appraisals, grief, and the influence of prior failure experience. <i>Journal of Business Venturing</i> , 29(1), 17-33.	11	42
12	Korber, S., & McNaughton, R. B. (2018). Resilience and entrepreneurship: a systematic literature review. <i>International Journal of Entrepreneurial Behavior & Research</i> , 24(7), 1129-1154.	11	47
13	Cardon, M. S., Wincent, J., Singh, J., & Drnovsek, M. (2009). The nature and experience of entrepreneurial passion. <i>Academy of Management Review</i> , 34(3), 511-532.	10	31
14	Doern, R. (2016). Entrepreneurship and crisis management: the experiences of small businesses during the London 2011 riots. <i>International Small Business Journal</i> , 34(3), 276-302.	10	39
15	Williams, T. A., & Shepherd, D. A. (2016). Victim entrepreneurs doing well by doing good: venture creation and well-being in the aftermath of a resource shock. <i>Journal of Business Venturing</i> , 31(4), 365-387.	10	44

Although some highly cited references do not focus exclusively on ECS, they nonetheless underpin its scholarly development. For instance, Eisenhardt's work on theory building through case study research offers methodological guidance particularly suited to emergent research areas characterised by limited prior empirical evidence. Similarly, [Sutcliffe \(2003\)](#) posited that both rigid and adaptive organisational responses to external threats can facilitate positive adjustment under specific conditions. These conditions typically arise when individuals and groups within organisations accumulate knowledge, develop emotional intelligence, and build interpersonal networks over time through experience, learning, and relationship-building. This particular reference is ranked third in total link strength, indicating frequent co-citation with other seminal works and reinforcing its role in shaping central concepts within ECS research. The co-citation analysis further reveals patterns of frequent citation among publications addressing related themes, thereby illuminating the intellectual connections and conceptual underpinnings within the field ([Donthu et al., 2021](#)).

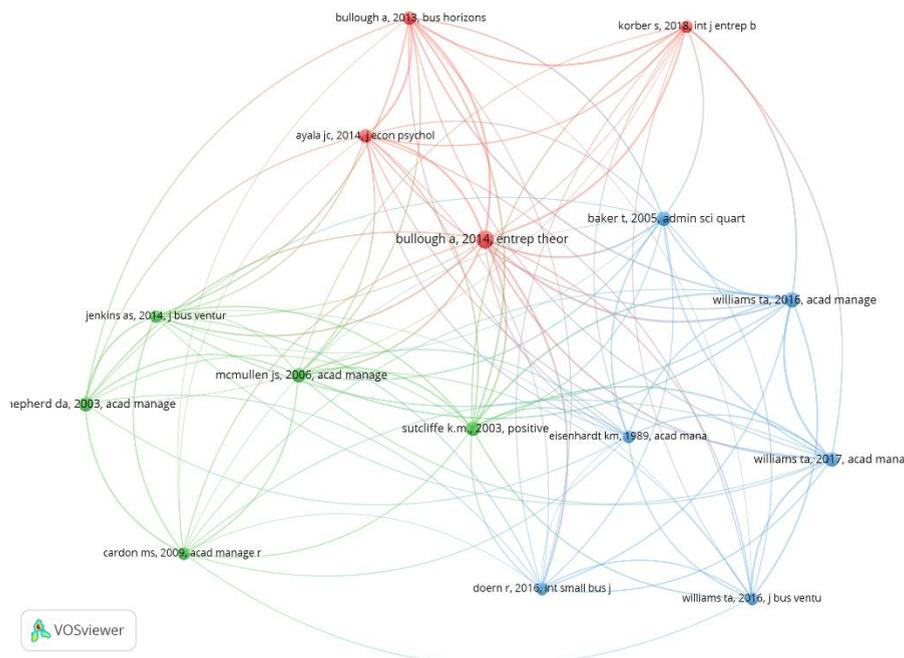


Figure 3: Frequently Co-Cited Reference Network in ECS Research.

As illustrated in [Figure 3](#), the red cluster reveals a robust linkage among studies exploring the drivers of decision-making within entrepreneurial contexts. Central to this cluster is the concept of resilience, particularly at the individual entrepreneur level, which significantly influences entrepreneurial behavioural intention, decision-making capabilities, and resourcefulness, thereby contributing to successful venture outcomes ([Renko, Bullough, & Saeed, 2021](#); [Smith et al., 2022](#)). This dynamic encompasses processes such as learning from resilient individuals who have navigated adversity ([Renko et al., 2021](#)), cultivating and leveraging social networks for support and information ([Shepherd, Saade, & Wincent, 2020](#)), and engaging in complex mechanisms of sensemaking and identity negotiation to adapt to evolving challenges ([Ramli et al., 2023](#)). A recent investigation by [Aust et al. \(2024\)](#) further highlights that hybrid entrepreneurs derive emotional reinforcement from diverse sources, enhancing their psychological resilience and enabling them to simultaneously address social, environmental, and economic objectives.

In contrast, the green cluster focuses on the cognitive influences in entrepreneurial effectiveness, with particular emphasis on emotional and motivational factors that shape cognitive processes. Research within this cluster has provided insight into how these psychological elements affect opportunity recognition, innovation tendencies, and the strategic responses required to manage the inherent difficulties of running a business ([Murnieks et al., 2020](#)). The blue cluster comprises seminal literature addressing crisis

The terms identified through co-occurrence analysis are categorised into three distinct, colour-coded clusters, each representing a thematic grouping based on frequent co-appearances. As illustrated in [Figure 4](#), the red cluster captures research concentrated on decision-making under business disruption. These studies generally frame identity as a foundational mechanism that shapes behavioural strategies. [Powell and Baker \(2014\)](#), for instance, demonstrated that it is the structural configuration of founder identity—rather than its specific content—that underpins a firm's varied strategic responses to adversity. Their integration of Identity Theory and Social Identity Theory has paved the way for subsequent inquiries into how entrepreneurs' identity-driven attitudes and values influence behavioural intentions and outcomes ([Aust et al., 2024](#); [Smith et al., 2022](#)). Central to this discourse is the development and sustenance of social networks that enable stakeholder collaboration and coordinated responses, which in turn reinforce resilience ([Fisher et al., 2020](#)). In light of these insights, the red cluster is conceptualised as the community-oriented coping pattern, encompassing terms such as resilience, entrepreneurship, management, and community, with a cumulative frequency of 102 ([Table 5](#)).

The green cluster addresses the emotional, psychological, and behavioural mechanisms activated when individuals confront uncertainty, setbacks, and project failure. These studies argue that cognitive resources significantly influence coping effectiveness. [Aust et al. \(2024\)](#) contended that psychological resilience, a key determinant of firm survival, facilitates entrepreneurs' ability to navigate negative emotions and manage financial precarity through differentiated cognitive and behavioural strategies. This cognition-oriented coping pattern is characterised by psychological reframing, adaptive thinking, and positive mental adjustment, all of which contribute to enhancing entrepreneurial performance ([Baier-Fuentes et al., 2023](#)). Core terms in this cluster—performance, positive emotions, and self-efficacy—collectively appear 84 times.

The blue cluster, comprising 49 occurrences, includes terms such as self-employment, crisis, covid-19, and stress. This thematic group reflects a strong focus on crisis management within resource-constrained contexts. [Williams and Shepherd \(2016\)](#) posited that in the aftermath of crises or disasters, entrepreneurs situated in environments marked by scarcity and loss can bolster resilience by strategically identifying, mobilising, and deploying essential resources. Accordingly, this cluster is designated as the problem-oriented coping pattern. It highlights how environmental pressures necessitate proactive and adaptive resource management. This includes resource-oriented entrepreneurial experiences ([Jiang et al., 2021](#)), adaptive cognition ([Terán-Yépez, Jiménez-Castillo, & Sánchez-Pérez, 2023](#)), and temporal resource management ([Branzei & Fathallah, 2023](#)).

Table 5: Term Clusters.

Labels	Occurrences	Terms and Topic
Community-Oriented Coping Pattern (Red Cluster)	102	Resilience, Entrepreneurship, Management, Organizations, Firms, Community, Risk, Model, Aftermath, Growth
Cognitive-Oriented Coping Pattern (Green Cluster)	84	Performance, Positive Emotions, Organizational Resilience, Self-Efficacy, Innovation, Small Business, Entrepreneurial Resilience, Business Failure, Psychological Resilience
Problem-Oriented Coping Pattern (Blue Cluster)	49	Self-Employment, Impact, Crisis, Covid-19, Business, Stress, Entrepreneurs

Thematic Visualisation

Serving as a complementary approach to co-occurrence analysis, thematic visualisation offers a nuanced understanding of scholarly literature by identifying dominant themes and revealing the progression of research patterns within a given domain (Arabiun et al., 2023). Figure 5 illustrates the thematic mapping of the ECS field, generated using the Bibliometrix R-package. This visual representation situates themes within a two-dimensional coordinate system defined by two analytical indicators: “Density” and “Centrality”. The density metric captures the internal development and cohesion of a thematic area, with higher values signifying thematic maturity. Centrality, on the other hand, measures the extent of a theme’s linkage with other themes, where increased centrality indicates a more influential and integrative role within the broader research landscape. The resulting strategic map is segmented into four quadrants, each delineating themes according to their relative levels of density and centrality.

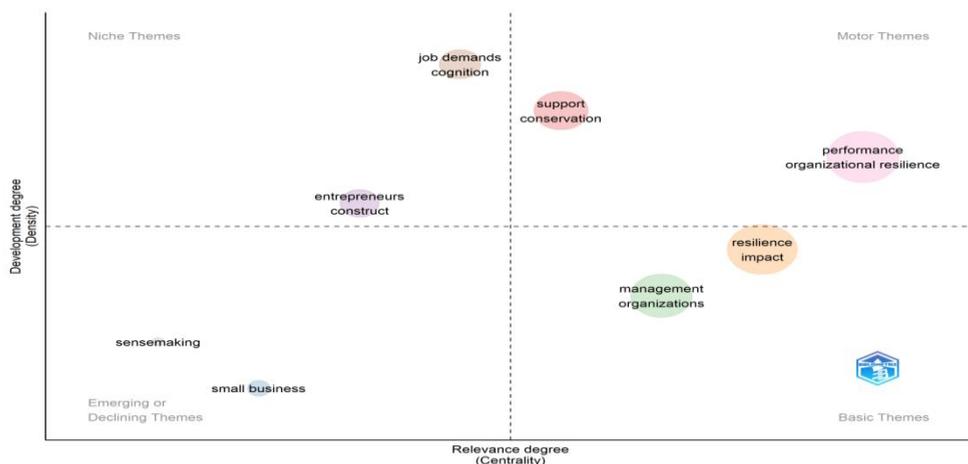


Figure 5: Thematic Visualisation of ECS.

Basic themes are characterised by their substantial interconnection with other themes within the research network, although they remain at an early stage of scholarly development (Arabiun et al., 2023). As illustrated in Figure 5, the themes of resilience and management are positioned within this category. Research under the resilience theme predominantly explores the motivations shaping entrepreneurial identity perceptions and their influence on adaptive strategic responses, particularly in relation to prevailing social norms and contextual values (Aust et al., 2024; Ramli et al., 2023; Smith et al., 2022). The management theme, on the other hand, is aligned with crisis management strategies viewed through the resource-based lens, focusing on bricolage as a mechanism for addressing resource limitations and evaluating its effectiveness in practice (Baier-Fuentes et al., 2023; Wang et al., 2022). These insights indicate that future studies may benefit from synthesising perspectives from both resilience and management to develop a more integrated conceptual framework.

Situated in the upper right quadrant of the thematic map, performance and support emerge as motor themes, signifying strong coherence within the themes and robust interlinkages with other thematic areas (Verma & Yadav, 2021). The performance theme investigates diverse business challenges, encompassing project-level difficulties (Fey & Kock, 2022), post-crisis management in family enterprises (Salvato et al., 2020), and the hurdles small and medium-sized enterprises (SMEs) encounter in technological innovation (Cueto et al., 2022). The support theme centres on psychological coping strategies, including mechanisms for alleviating occupational stress (St-Jean & Tremblay, 2023) and improving performance outcomes through psychological detachment and emotional self-regulation (Wach et al., 2021). The themes located in the upper left quadrant are considered niche, indicating highly specialised yet relatively isolated areas of inquiry (Akbari et al., 2020). These include the topics of job demands and construction. Job demands research focuses on entrepreneurial cognitive recovery, particularly in relation to mental strain stemming from work responsibilities. Wach et al. (2021) highlighted how prolonged stress exposure hampers psychological recovery and emotional well-being. The construction theme investigates the development of entrepreneurial capabilities—namely skills, knowledge, and competencies—particularly in response to crisis situations (Aust et al., 2024; Murnieks et al., 2020).

Themes appearing in the lower left quadrant denote either nascent or waning research areas, typically underexplored or in the early stages of academic recognition (Arabiun et al., 2023). Small business and sensemaking are included in this category. These themes examine how individual-level sensemaking and identity formation influence coping mechanisms and organisational recovery in the wake of business disruptions (Aust et al., 2024; Walsh & Cunningham, 2024). The small business theme investigates entrepreneurial struggles within resource-constrained environments. Brito, Lenz and Pacheco (2022) conceptualised crisis response as a dynamic interaction between human, social, and financial capital in small firms, suggesting that those with stronger cognitive

and relational assets are better positioned to reinterpret challenges and implement adaptive strategies, thereby fostering dynamic resilience.

DISCUSSION AND FUTURE RESEARCH

Based on the analysis of the 88 articles within the dataset, two primary categories of challenges and their associated entrepreneurial coping strategies were identified. This synthesis serves to elucidate the distinct coping patterns that emerge in response to each challenge category. These patterns are visually represented in Figure 6.

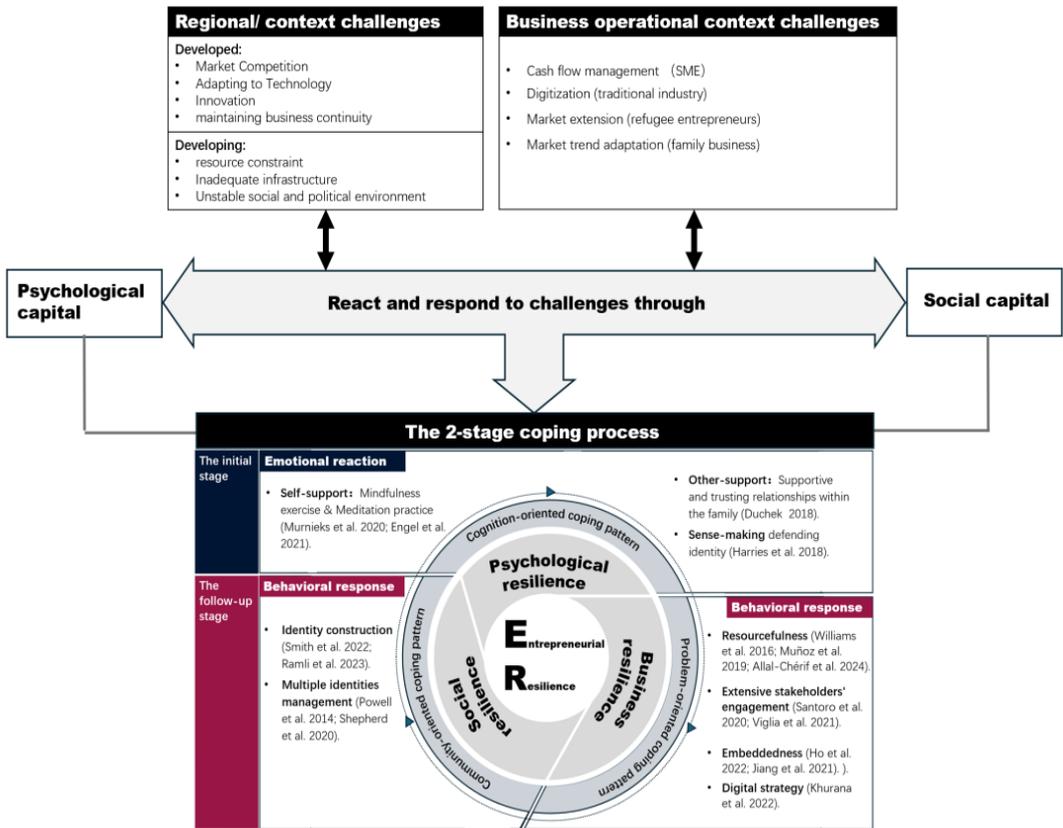


Figure 6: Integrated Framework of Entrepreneurial Coping Mechanisms for Adversity.

The first category of challenges identified in the ECS domain relates to regional contextual disparities. These challenges vary significantly between developed and developing regions. In more developed contexts, scholarly focus tends to centre on how entrepreneurs navigate volatile business environments (Corrêa et al., 2021). Conversely, studies based in developing regions place greater emphasis on challenges stemming from resource limitations (Chatterjee, Shepherd, & Wincent, 2022). The second category of challenges pertains to business operational issues. Alongside traditional

operational difficulties, entrepreneurs today are increasingly required to address emerging complexities associated with digitalisation and evolving market trends (Cueto et al., 2022). Both categories not only influence research trajectories in the ECS domain but also shape the emotional and behavioural responses of entrepreneurs.

Upon comprehensive review of existing literature, a two-phase coping process emerges as a common pattern among individual entrepreneurs responding to these challenges. This process typically begins with an emotional reaction, followed by a deliberate behavioural response. In the initial emotional phase, several coping mechanisms have been identified, including individual-centred approaches such as mindfulness and meditation, social support from others, and sense-making practices (Aust et al., 2024; Fisher et al., 2020; Murnieks et al., 2020). As these approaches are intricately linked to cognitive processes such as perception, interpretation, and appraisal, they are collectively categorised as cognition-oriented coping strategies. In the subsequent behavioural phase, researchers have highlighted strategies that reflect proactive adaptation. These include resourcefulness, embeddedness in social and institutional networks, and identity management (Jiang et al., 2021; Ramli et al., 2023; Shepherd et al., 2020; Williams et al., 2025). These strategies enable entrepreneurs to either resolve specific challenges directly or to uphold community functioning during crises. These are further grouped into problem-oriented and community-oriented coping patterns. Irrespective of the specific coping route, the underlying outcome of these strategies is reflected in ER.

Within the ECS context, ER is conceptualised as a systemic mechanism that enables individuals to sustain emotional equilibrium and behavioural stability in the face of adversity (Stephan et al., 2023). This mechanism supports continued functionality and mitigates psychological, operational, and social disruptions (Fisher et al., 2020). In this light, coping strategies serve as observable expressions, whereas ER constitutes the internal, unifying core. Consequently, future research may benefit from a deeper exploration of ER's centrality in the ECS field, particularly across three key dimensions:

Expanding the Range of Contexts and Populations in ECS Research

While existing studies confirm that ER manifests across different populations (Shepherd et al., 2020), entrepreneurs' responses tend to vary according to their specific contextual conditions. The term "mechanism" denotes that ER functions through a coordinated sequence of actions and feedback loops (Stephan et al., 2023). At the same time, the broader entrepreneurial landscape remains in flux, influenced by technological advancements, evolving market needs, and shifting competitive dynamics. These factors affect decision-making, agility, and entrepreneurial hustle (Branzei & Fathallah, 2023; Fisher et al., 2020; Stephan et al., 2023), forming the

dynamic foundation of the ER mechanism. A contextual understanding allows entrepreneurs to adjust strategies in real time, capitalise on opportunities, and reinforce ER. Notably, ER can be operationalised through bricolage—an agentic strategy that leverages existing resources in novel ways (Baier-Fuentes et al., 2023). When applied consistently, bricolage can evolve into entrepreneurial capital (Wang et al., 2022) and organisational-level adaptive capabilities (Padilla-Meléndez et al., 2022). These insights closely align with principles in project management, especially stakeholder coordination, adaptive responsiveness, and project resilience (Nguyen, Mohamed, & Mostafa, 2024). Thus, competencies such as resource recombination and dynamic mobilisation are essential for managing complex, uncertain, and innovation-driven contexts (Fey & Kock, 2022). Future scholarship should investigate how individual-level factors influence resilience in project management, especially how ER can be leveraged to foster sustainable project resilience in domains involving entrepreneurship, innovation, and crisis navigation.

Exploring the Dynamic Nature of ER

ER consists of interlinked processes encompassing cognition (Yu et al., 2022), behaviour (Williams & Shepherd, 2016), resource integration (Shepherd et al., 2020), and cultural intelligence (Pathak & Muralidharan, 2024). Through these mechanisms, entrepreneurs develop nuanced emotional states (Terán-Yépez et al., 2023) and refined perceptions of resources (Branzei & Fathallah, 2023). Importantly, ER is not a static attribute but a dynamic and evolving process (Padilla-Meléndez et al., 2022). This underscores the need for research that investigates the cyclical and iterative dimensions of ER. As Stephan et al. (2023) observe, ER reflects a positive adaptation to adversity, where agility constitutes a distinct operational trait marked by responsiveness, fluidity, and strategic adjustment. A richer understanding of ER's longitudinal trajectory requires further empirical investigation into its developmental processes.

Examining the Effectiveness and Downsides of ER.

Studies in the ECS field must also critically examine the effectiveness and limitations of ER (Branzei & Fathallah, 2023). Traditionally, effectiveness is assessed by indicators such as goal attainment, efficient resource use, and adaptability (Shi & Shi, 2022). While literature acknowledges the use of psychological and social resources to navigate adversity, much of this discussion has concentrated on immediate or short-term outcomes (Ramli et al., 2023; Stephan et al., 2023). There remains a pressing need to evaluate the long-term implications of ER-based strategies, their sustainability, and the risks associated with over-dependence on these coping mechanisms. In line with these considerations, Table 6 presents a synthesis of prospective research pathways that hold particular promise for advancing the ECS field. It draws attention to novel and high-impact perspectives that merit further scholarly investigation.

Table 6: Future ECS Research Agenda.

Coping Process	Focused Contexts	Resilience Process	Effectiveness & Downsides
Emotional Reaction	1) Trade Wars and Geopolitical Tensions 2) The Rise of Gen AI 3) Natural disaster and Sustainable Development 4) Digital Transformation and the Digital Economy 5) Reshaping Global Supply Chains	1) Does entrepreneurs' ruminative thinking have a unique and critical impact on their psychological resilience? 2) How does entrepreneurs' emotional intelligence (encompassing emotion perception, emotion understanding, emotion regulation, and emotion utilization) influence entrepreneurial agility? 3) Does affective rumination cyclically strengthen or weaken certain dimensions of entrepreneurial agility?	1) Do cooperative cultures under different cultural values (collectivism vs. individualism) predict individual psychological resilience of entrepreneurs in extreme situations? 2) How do cultural values (e.g., collectivism/individualism) influence the efficacy of emotional regulation strategy (e.g., mindfulness meditation) on individual psychological resilience? 3) Is the long-term effectiveness of psychological resource cultivation sustainable?
Behavioural Response	6) Labour Market Transformations 7) Shifts in Consumer Behaviour 8) Financial Technology and Financing Environments	1) In the context of collectivist cultures, does entrepreneurs' ruminative thinking influence their agility or entrepreneurial hustle? 2) Does the intensity of entrepreneurial hustle influence the adoption of digital strategies by disadvantaged entrepreneurs? 3) Do extreme cultural juxtapositions experienced by disadvantaged entrepreneurs foster stronger resource integration capabilities in these individuals? 4) Does cultural intelligence (CQ) have a unique and critical impact on entrepreneurial social resilience?	1) How do individual entrepreneurs enhance their entrepreneurial resilience through innovative utilization of digital resources? 2) How does information overload from digital resources affect entrepreneurs' agility in crisis situations? 3) How can entrepreneurs reduce cognitive load from digital resources through effective resource management?

		<p>1) Does CQ influence the goals set by disadvantaged entrepreneurs for themselves and their ventures? 2) Can CQ predict entrepreneurs' AI adoption or digital performance? 3) Does experience in managing identity conflicts foster stronger resource integration capabilities in entrepreneurs? 4) Is the experience of managing identity among entrepreneurs more strongly associated with certain dimensions of entrepreneurial hustle? If so, to what extent? 5) Compared to traditional business planning, how does agile project management shorten the cognition-to-action cycle of entrepreneurs in crisis decision-making through rapid validation and adjustment loops?</p>	<p>1) How does technological advancement (e.g., AI) influence the dynamic allocation of entrepreneurial resources within cooperative cultural contexts? 2) How do entrepreneurs address the digital divide through entrepreneurial resilience? 3) Does the support provided by entrepreneurial incubators enhance or weaken entrepreneurial agility? 4) Does an entrepreneur's identity enhance or weaken their ability to leverage resources when facing challenges? 5) What inherent constraints emerge when entrepreneur applying Gen AI techniques to predict and mitigate "black swan" project risks?</p>
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CONCLUSION

This study addresses the limitations of traditional bibliometric methods, which often lack depth due to reliance on superficial metadata. By integrating bibliometric analysis with a systematic literature review under the PRISMA framework, the research enables a rigorous selection of relevant studies and a detailed exploration of key trends. This hybrid approach supports the development of a cohesive analytical framework and identifies future research directions. The findings reveal key developmental trajectories in ECS literature, with thematic visualisation highlighting core themes and emerging interests. These insights offer a strategic basis for advancing scholarship, particularly in areas related to entrepreneurial emotion, cognition, and capability.

This study centres on ER as a dynamic and iterative process involving emotional reactions, behavioural adjustments, and contextual influences. This perspective advances ECS research by revealing both the enabling and limiting roles of ER. The analysis also highlights underdeveloped areas within ECS, including policy, gender-specific entrepreneurship, and resource-based coping, which require more contextually grounded frameworks to reflect the complexity of entrepreneurial responses. The proposed integrated model clarifies how entrepreneurs construct a resource-based safety mechanism through a dual-phase coping process, enabling adaptation in uncertain environments. These findings offer valuable guidance for policymakers and practitioners, outlining the key drivers and contextual factors influencing entrepreneurial resilience. Further research is necessary to refine theoretical models and support practical applications of ER within diverse ECS contexts.

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