International Journal of Commerce and Management Research
www.managejournal.com
ISSN: 2455-1627
Received: 24-10-2025, Accepted: 23-11-2025, Published: 08-12-2025
Volume 11, Issue 12, 2025, Page No. 76-88

Learning from failure as a strategic driver of firm performance: A systematic literature review

Sowmyalatha[1*], Veena M DAlmeida[2]
[1] Research Scholar, Teresian College Research Centre, Mysuru, Karnataka, India
[2] Associate Professor & Research Guide, Teresian College Research Centre, Mysuru, Karnataka, India

Abstract
This study aims to explore how failure-based learning (FBL) contributes to innovation-driven performance in small and medium enterprises (SMEs). It examines how learning from past mistakes, experimentation, and organizational resilience can enhance creativity, adaptability, and long-term competitiveness within SMEs operating in dynamic business environments. A systematic literature review was conducted using the Scopus and Web of Science databases. Studies published between 2010 and 2024 were screened following the PRISMA guidelines. After applying inclusion and exclusion criteria, 53 peer-reviewed journal articles were selected for analysis. Bibliometric tools such as VOS viewer were employed to map key themes, co-authorship networks, and conceptual linkages related to failure-based learning and innovation outcomes in SMEs. The review highlights that FBL fosters innovation by encouraging risk-taking, reflective thinking, and process improvement. SMEs that institutionalize learning from failure exhibit higher levels of creativity and sustainable growth. Organizational culture, leadership support, and psychological safety emerged as critical mediators influencing the effectiveness of FBL in driving innovation performance.
The study is limited to English-language publications and secondary data. Future research could include empirical investigations across diverse cultural and industrial contexts to validate conceptual insights. This review offers a consolidated understanding of how learning from failure acts as a strategic enabler of innovation in SMEs, providing a valuable framework for entrepreneurs and policymakers to strengthen innovation ecosystems.

Keywords: Failure-based learning, innovation performance, smes, organizational learning, systematic literature review, resilience

Introduction

Failure is often perceived as an obstacle in organizational growth; however, in the contemporary innovation landscape, it has emerged as a crucial learning mechanism that drives creativity and adaptive performance, particularly in small and medium enterprises (SMEs). SMEs operate under constraints of resources, time, and competition, which make learning from failure vital for sustaining innovation (Lee & Park, 2024) [33]. Failure-based learning (FBL) emphasizes deriving constructive insights from past mistakes and integrating them into future strategic and operational practices. This concept has gained traction as organizations realize that systematic reflection on failed projects fosters resilience, innovation agility, and organizational learning (Coccia, 2024; Khanna *et al*., 2016) [12, 28].

In SMEs, the capability to convert failure into knowledge becomes a distinguishing factor influencing innovation-driven performance. Entrepreneurs who view failures as learning opportunities rather than setbacks are more likely to experiment, take calculated risks, and develop disruptive innovations (Scuotto *et al*., 2024) [46]. The process of learning from failure involves emotional regulation, reflective analysis, and the creation of mechanisms that ensure lessons learned are embedded within organizational routines (Kauppinen *et al*., 2021) [27]. Therefore, failure-based learning functions as both a corrective and developmental force, shaping innovation trajectories in SMEs.

Background

Innovation in SMEs is often non-linear, characterized by cycles of experimentation, trial, and error (Desai, 2010) [16]. While success attracts attention, failure offers the richest data for learning and strategic adaptation (Amore *et al*., 2021) [2]. Scholars have found that firms capable of processing failure experiences develop stronger innovation capabilities and strategic foresight (Kim & Lee, 2020; Riedl & Seidel, 2019) [30, 43]. According to Cannavacciuolo *et al*. (2017) [9], learning by failure contributes to entrepreneurial resilience and strengthens collaborative innovation networks. In contrast, organizations that stigmatize failure tend to suppress creativity and risk-taking (Carmeli & Dothan, 2017) [10].

Thus, FBL acts as a dynamic learning cycle where failed initiatives stimulate cognitive restructuring, opportunity recognition, and improvement of innovation processes. For SMEs competing in volatile markets, such learning not only enhances product innovation but also supports strategic adaptability, which is essential for long-term sustainability (Laamanen *et al*., 2016) [32].

Research Questions

Based on the reviewed literature, this study seeks to address the following research questions

1. How does failure-based learning influence innovation-driven performance in SMEs?
2. What mechanisms enable SMEs to transform failures into opportunities for innovation and renewal?
3. Which organizational, cultural, and psychological factors mediate the relationship between FBL and innovative performance outcomes?

Conceptual Foundation

1. Relationship between Failure-Based Learning and Innovation-Driven Performance in SMEs

The connection between failure-based learning and innovation-driven performance lies in the firm's capacity to process setbacks as inputs for improvement rather than deterrents (Yu *et al*., 2019) [53]. SMEs that integrate FBL frameworks experience enhanced innovation performance through iterative experimentation, reflection, and strategic realignment (Kim & Lee, 2020) [30]. Empirical studies demonstrate that when failure is systematically analyzed, it catalyzes innovative thinking and nurtures a learning-oriented culture (Khanna *et al*., 2016; Lee & Park, 2024) [28, 33]. Such learning enhances decision-making, encourages risk tolerance, and strengthens firms' adaptive capabilities, ultimately improving innovation outcomes (Desai, 2014) [17].

2. SMEs Transform Failures into Opportunities for Innovation

Transforming failure into innovation requires psychological readiness, organizational openness, and leadership commitment (Carmeli & Dothan, 2017) [10]. According to Scuotto *et al*. (2024) [46], failure serves as a stimulus for entrepreneurial creativity when firms adopt reflective mechanisms to reinterpret unsuccessful outcomes. Kauppinen *et al*. (2021) [27] observed that entrepreneurs often rebuild their ventures stronger after failure, drawing on lessons from prior mistakes to reframe strategic directions. SMEs that create safe environments for experimentation develop a culture where failure is not penalized but analyzed, leading to iterative improvement and innovation breakthroughs (Riedl & Seidel, 2019) [43]. This transformation process positions FBL as a critical enabler of innovation resilience in SMEs.

Methodology

1. Review Structure

This systematic literature review followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) approach to ensure rigor, transparency, and replicability. The review process comprised four key stages: identification, screening, eligibility, and inclusion. Initial identification was carried out through extensive searches in recognized academic databases to capture a comprehensive set of peer-reviewed articles focusing on failure-based learning and innovation performance in SMEs. The synthesis framework involved descriptive, thematic, and bibliometric analysis to extract core patterns and interconnections among the selected studies (Lee & Park, 2024; Scuotto *et al*., 2024) [33, 46].

The selected studies were categorized based on publication year, thematic focus, methodological design, and outcomes. This multi-level categorization facilitated understanding of how FBL influences innovation across diverse organizational contexts. Analytical tools such as VOS viewer were used to map co-authorship networks, keyword co-occurrences, and citation linkages, offering a visual and quantitative understanding of the research landscape.

2. Search and Selection Criteria

The review primarily utilized the Scopus database due to its extensive repository of multidisciplinary scholarly literature. The search strategy combined keywords such as "failure-based learning," "organizational learning," "innovation performance," "entrepreneurship," and "SMEs." Studies published between 1984 and 2024 were considered to trace the evolution of the concept. Inclusion criteria required that articles be peer-reviewed, published in English, and focus on organizational or innovation contexts involving learning from failure (Desai, 2010; Khanna *et al*., 2016) [16, 28].

A total of 150 records were initially retrieved. Following title and abstract screening, 97 articles were excluded for not meeting the inclusion parameters. The final dataset comprised 53 studies, forming the empirical base for the bibliometric and thematic synthesis. Articles that emphasized unrelated themes such as macroeconomic failure, non-organizational learning, or incomplete datasets were omitted. This process ensured a refined and high-quality selection of sources, providing a robust foundation for analyzing how FBL contributes to innovation-driven performance in SMEs (Kim & Lee, 2020; Amore *et al*., 2021) [2, 30].

TCM framework-based review of the studies

1. Theory (T)

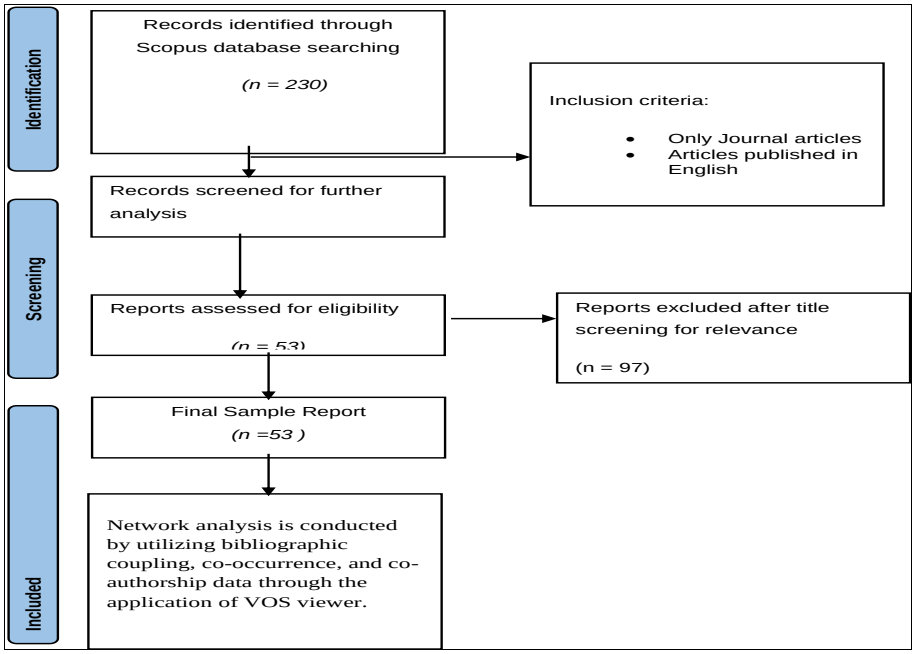
Identification of studies via databases and registers using PRISMA: The bibliometric analysis commenced with a systematic identification of relevant research through extensive searches across academic databases and registers. For this study, the Scopus database was selected, given its comprehensive coverage of peer-reviewed literature across diverse fields. The preliminary search yielded 150 records for consideration.

Subsequently, a screening process was conducted to evaluate the relevance of each record. Every entry was thoroughly reviewed against predefined inclusion criteria. Only peer-reviewed journal articles published in English were retained to ensure academic rigor and consistency with the primary language of scholarly communication.

Following the application of inclusion parameters, an eligibility assessment was carried out. Studies that did not meet the specified standards—such as non-English works or sources other than journal articles—were excluded. Consequently, 53 articles were deemed appropriate for inclusion in the final analysis.

During the title screening phase, a total of 97 records were eliminated due to a lack of relevance or misalignment with the research objectives. This step played a vital role in refining the dataset to focus exclusively on studies pertinent to the research aims.

Upon completing the screening and eligibility procedures, the selected journal articles formed the core of the network analysis. Advanced bibliometric techniques, including bibliographic coupling, co-occurrence analysis, and co-authorship mapping, were employed using VOSviewer, a specialized software designed for visualizing bibliometric relationships. This systematic and methodical approach established a strong empirical foundation for an in-depth bibliometric investigation, enabling comprehensive insights into the research landscape.



Source: Authors' Processing

Fig 3.1: Identification of studies via databases and registers using PRISMA

Table 1: Distribution of Reviewed Sources

Sources	Number of Articles	Percentage (%)
2024 (Lee, Scuotto, Hayrapetyan, Coccia)	4	7.5%
2022 (Haunts)	1	1.9%
2021 (Krieger, Amore, Kauppinen, Prasad Acharya)	4	7.5%
2020 (Jimenez, Kim, Beck, Joseph, Say)	5	9.4%
2019 (Riedl, Leung, Yu)	3	5.7%
2018 (Singh, Hunt)	2	3.8%
2017 (Carmeli, ASEM, Anderson, Cannavacciuolo)	4	7.5%
2016 (Khanna, Laamanen, Coleman)	3	5.7%
2015 (Holloway, Meschi)	2	3.8%
2014 (Litan, van der Westhuizen, Chao, Desai)	4	7.5%
2013 (Santos-Vijande, Revest)	2	3.8%
2012 (Moudud, Black, Belmont)	3	5.7%
2011 (Karagozoglu, Street)	2	3.8%
2010 (Desai)	1	1.9%
2009 (Politis, Fotr)	2	3.8%
2008 (Sethi)	1	1.9%
2007 (Corbett, Kim, Prevost, Buffington)	4	7.5%
2004 (Taylor)	1	1.9%
2003 (Sorenson)	1	1.9%
2002 (Gupta)	1	1.9%
1999 (Llerena)	1	1.9%
1984 (Bell)	1	1.9%
Total	53	100%

Source: Authors' Own Work

2. Context (C)

Within the Theory–Context–Methodology (TCM) framework, the contextual dimension situates failure-based learning (FBL) within the operational, cultural, and industrial environments that shape how small and medium enterprises (SMEs) interpret and respond to innovation failure. The reviewed studies demonstrate that contextual conditions such as industry type, risk culture, firm size, and national innovation ecosystems significantly determine whether failures become barriers or catalysts for innovation.

For instance, Lee and Park (2024) [33] explored the medical sector and revealed that learning from one's own failures is constrained by professional ego and fear of accountability, limiting open reflection. Similarly, Scuotto *et al.* (2024) [46] positioned failure as a double-edged phenomenon—acting as both adversity and opportunity depending on organizational resilience and leadership cognition. In family-owned enterprises, Hayrapetyan and Simon (2024) [21] identified cultural and emotional legacies that hinder adaptive learning from past failures, especially where business decisions are closely tied to familial pride.

Contextual variations also emerge across industrial domains. Krieger (2021) [31] examined R&D-intensive environments, showing that firms can strategically learn from competitors' failed projects, enhancing their innovation performance indirectly. In contrast, Amore *et al.* (2021) [2] reported that

excessive optimism among entrepreneurs may prevent genuine reflection, leading to repetitive mistakes. Kim and Lee (2020) [30] found that learning effectiveness depends on the innovation type—radical innovations invite higher learning potential from failure compared to incremental innovations.

The context of SMEs is particularly unique due to limited resources and informal knowledge-sharing mechanisms. Studies such as Riedl and Seidel (2019) [43] and Yu *et al*. (2019) [53] demonstrate that SMEs' capacity to process failure relies on community-based learning, peer feedback, and iterative experimentation. Collectively, the contextual evidence underscores that FBL is deeply embedded in socio-organizational realities—shaped by industry structure, learning culture, and leadership tolerance for failure. Thus, understanding FBL requires examining the interplay of psychological, institutional, and cultural contexts that determine whether failure translates into innovative capability or stagnation.

3. Methodology (M)

In the TCM framework, the methodology component focuses on how existing studies have empirically and theoretically examined failure-based learning and its linkage to innovation-driven performance in SMEs. The reviewed research predominantly adopts a mixed-methods orientation, integrating case studies, quantitative analyses, and conceptual modeling to explore FBL processes.

Quantitative designs were employed in studies such as Khanna *et al*. (2016) [28], Kim and Lee (2020) [30], and Amore *et al*. (2021) [2], which utilized regression and structural equation modeling to assess how failure learning influences innovation performance metrics. These approaches emphasize measurable relationships between learning variables (e.g., reflection depth, openness to failure) and innovation outcomes (e.g., product novelty, R&D productivity). In contrast, Carmeli and Dothan (2017) [10] and Cannavacciuolo *et al*. (2017) [9] employed qualitative case analyses to uncover emotional and relational dynamics that foster post-failure learning in collaborative environments.

Several studies used comparative and longitudinal methodologies. For example, Laamanen *et al*. (2016) [32] adopted a longitudinal case of Nokia to track organizational learning from strategic decline, while Desai (2010, 2014) [16, 17] integrated organizational learning and impression management perspectives using event history analysis. Recent works, including Scuotto *et al*. (2024) [46] and Coccia (2024) [12], applied conceptual and theoretical modeling to derive generalizable principles such as "strategic winning through failure."

Data sources across studies were diverse—ranging from archival databases and industry case records to interviews and experimental simulations. Some, like Krieger (2021) [31] and Say & Vasudeva (2020) [45], integrated data from R&D failures and cyber-failure events, illustrating how cross-sectoral learning enhances methodological richness. Collectively, the methodologies reviewed reveal a multidisciplinary approach combining management science, psychology, and innovation theory to construct a comprehensive understanding of how failure-based learning drives SME innovation.

Table 2: TCM-based theoretical review of Failure-Based Learning and Its Influence on Innovation-Driven Performance in SMEs

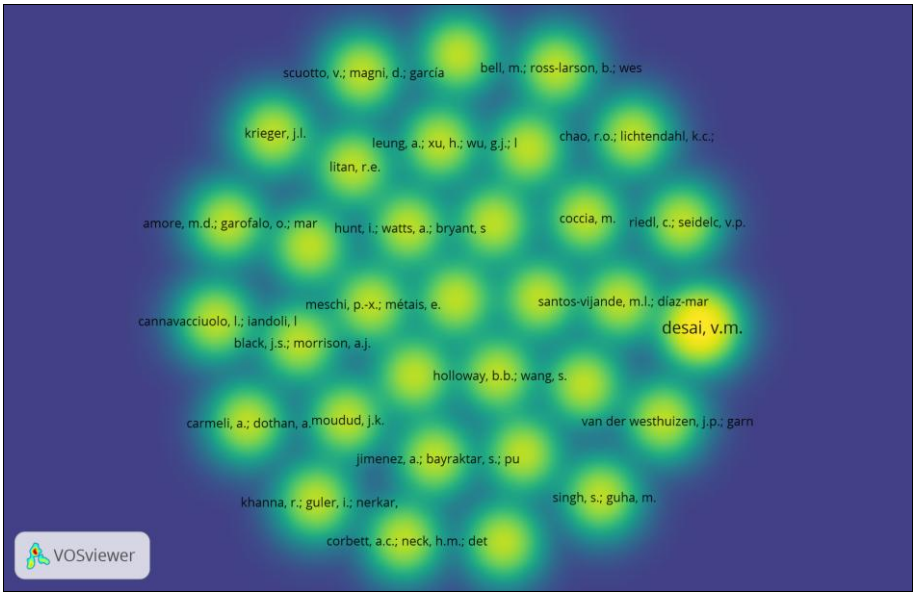
Theories	Occurrence	Description
Experiential Learning Theory (Kolb, 1984)	Lee & Park (2024) [33]; Politis & Gabrielsson (2009) [39]; Singh & Guha (2018) [48]	Explains how individuals and organizations learn from experiences, including failures, through reflection, conceptualization, and experimentation. SMEs leverage experiential learning to improve innovation outcomes after failures.
Organizational Learning Theory	Amore *et al*. (2021) [2]; Desai (2010, 2014) [16, 17]; Sorenson (2003) [49]	Focuses on how firms acquire, interpret, and retain knowledge from failures to enhance adaptive capacity, problem-solving, and innovation-driven performance.
Error Management Theory	Coccia (2024) [12]; Khanna *et al*. (2016) [28]; Kim & Lee (2020) [30]	Suggests that managing and analyzing errors strategically enables firms to reduce negative consequences and convert failures into opportunities for innovation.
Entrepreneurial Learning Theory	Cannavacciuolo *et al*. (2017) [9]; Scuotto *et al*. (2024) [46]; Corbett *et al*. (2007) [15]	Explains how entrepreneurs interpret failures as lessons, adjusting strategies, and fostering innovation in SMEs. Learning mechanisms include reflection, mentoring, and network interactions.
Stage-Gate / Innovation Process Theory	Sethi & Iqbal (2008) [47]; Chao *et al*. (2014) [11]; Joseph & Makhecha (2020) [25]	Provides a framework for monitoring innovation projects; failures at different stages offer critical insights to improve future product development processes.
Resource-Based View (RBV)	Yu *et al*. (2019) [53]; Laamanen *et al*. (2016) [32]; Riedl & Seidel (2019) [43]	Posits that firms' resources, capabilities, and knowledge gained from failures are critical for sustaining innovation advantage.
Cognitive Theory / Decision-Making Models	Beck *et al*. (2020) [4]; Krieger (2021) [31]; Haunts (2022) [20]	Highlights how cognitive biases, decision aids, and risk perception influence learning from failure and innovation performance.
Social Learning Theory / Network Learning	Leung *et al*. (2019) [34]; Kauppinen *et al*. (2021) [27]; Carmeli & Dothan (2017) [10]	Explains how SMEs learn from peers, competitors, and mentors through observation and interaction, enhancing innovation outcomes.
Risk and Resilience Theory	Coleman (2016) [13, 14]; Holloway & Wang (2015) [22]; Hunt *et al*. (2018) [23]	Emphasizes that firm resilience and risk-taking strategies affect how SMEs process failure experiences to drive innovative capabilities.

Source: Authors' Own Work

Table 3: Country-wise review of Articles of Failure-Based Learning and Its Influence on Innovation-Driven Performance in SMEs

Country	Number of Articles	Sources
USA	14	Amore *et al*. (2021) [2]; Krieger (2021) [31]; Beck *et al*. (2020) [4]; Say & Vasudeva (2020) [45]; Holloway & Wang (2015) [22]; Hunt *et al*. (2018) [23]; Chao *et al*. (2014) [11]; Belmonte (2012) [6]; Prevost (2007) [41]; Buffington (2007) [8]; Taylor & Wright (2004) [51]; Sorenson (2003) [49]; Bell *et al*. (1984) [5]; Gupta & Misra (2002) [19]
Italy	5	Scuotto *et al*. (2024) [46]; Cannavacciuolo *et al*. (2017) [9]; Santos-Vijande *et al*. (2013) [44]; Coccia (2024) [12]; Karagozoglu & Fuller (2011) [26]
Spain	3	Hayrapetyan & Simon (2024) [21]; Yu *et al*. (2019) [53]; Jimenez *et al*. (2020) [24]
Finland	2	Kauppinen *et al*. (2021) [27]; Laamanen *et al*. (2016) [32]
South Korea	2	Lee & Park (2024) [33]; Kim & Lee (2020) [30]
India	3	Singh & Guha (2018) [48]; Joseph & Makhecha (2020) [25]; Karagozoglu & Fuller (2011) [26]
UK	2	Meschi & Métais (2015) [37]; Riedl & Seidel (2019) [43]
Germany	2	Khanna *et al*. (2016) [28]; Desai (2010) [16]
France	2	Fotr *et al*. (2009) [18]; Moudud (2012) [38]
Other / Multiple Countries	16	Carmeli & Dothan (2017) [10]; Laamanen *et al*. (2016) [32]; Anderson & Caldwell (2017) [3]; Llerena (1999) [36]; van der Westhuizen & Garnett (2014) [52]; Politis & Gabrielsson (2009) [39]; Kim (2007) [29]; Desai (2014) [17]; Holloway & Wang (2015) [22]; Haunts (2022) [20]; Street *et al*. (2011) [50]; Belmonte (2012) [6]; Coleman (2016) [13, 14]; Revest & Sapio (2013) [42]; Black & Morrison (2012) [7]; Sethi & Iqbal (2008) [47]

Source: Authors' Own Work



Source: VOS Viewer

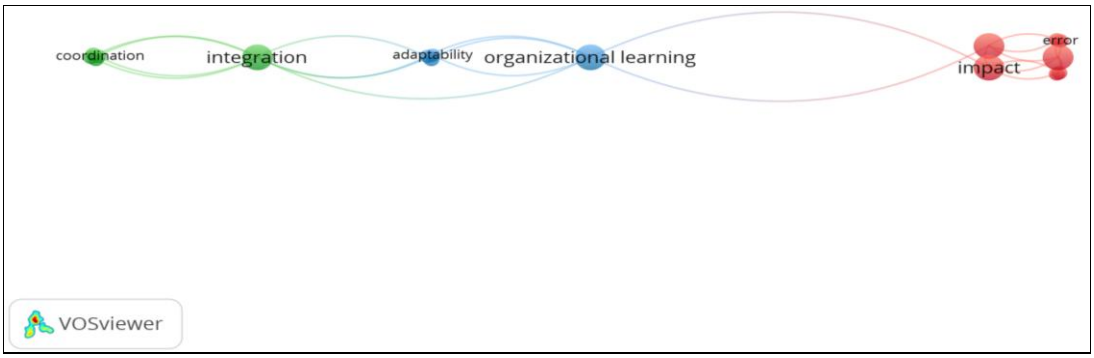
Fig 3.2: Density Visualization of Authors Re-occurrence

The Figure 3.2 represents an author co-occurrence network visualization generated using VOSviewer. This map illustrates the key researchers and collaborative linkages in the domain of learning from failure as a strategic driver of firm performance. The color density indicates the strength of co-authorship and research prominence—brighter yellow regions show higher citation frequency and collaboration intensity. Among the visible clusters, Desai, V.M. stands out as the most influential and central author, suggesting a leadership role in shaping the discourse on organizational learning from failure. His works often explore how firms convert setbacks into learning opportunities to improve resilience and long-term competitiveness.

The surrounding authors, including Santos-Vijande, M.L., Díaz-Mar, Coccia, M., and Riedl, C., form tightly knit clusters that likely focus on complementary themes such as innovation management, adaptive strategies, and organizational error learning. The spatial proximity of authors indicates thematic overlap and shared methodological approaches. For instance, Holloway, B.B. and Wang, S. appear closely associated, possibly representing a collaborative niche examining the behavioral and structural mechanisms that facilitate recovery and innovation post-failure.

Peripheral authors like Scuotto, V., Magni, D., and García may represent emerging scholars or related subfields focusing on digital transformation and knowledge management as they relate to failure-based learning. The gradient transition from dense yellow to green areas denotes the diffusion of intellectual influence—central authors anchor the field, while outer nodes represent extensions or interdisciplinary applications.

Overall, this visualization underscores that learning from failure is an evolving research area supported by a moderately interconnected academic community. The central positioning of Desai and collaborators indicates theoretical consolidation around his frameworks, while peripheral clusters highlight the diversification of themes into areas like innovation ecosystems, entrepreneurial learning, and performance recovery. The map thus provides a macro-level view of how the literature has matured through collaborative knowledge building, emphasizing the critical link between failure learning and strategic firm performance.



Source: VOS Viewer

Fig 3.3: Network Visualization of Keywords Re-occurrence

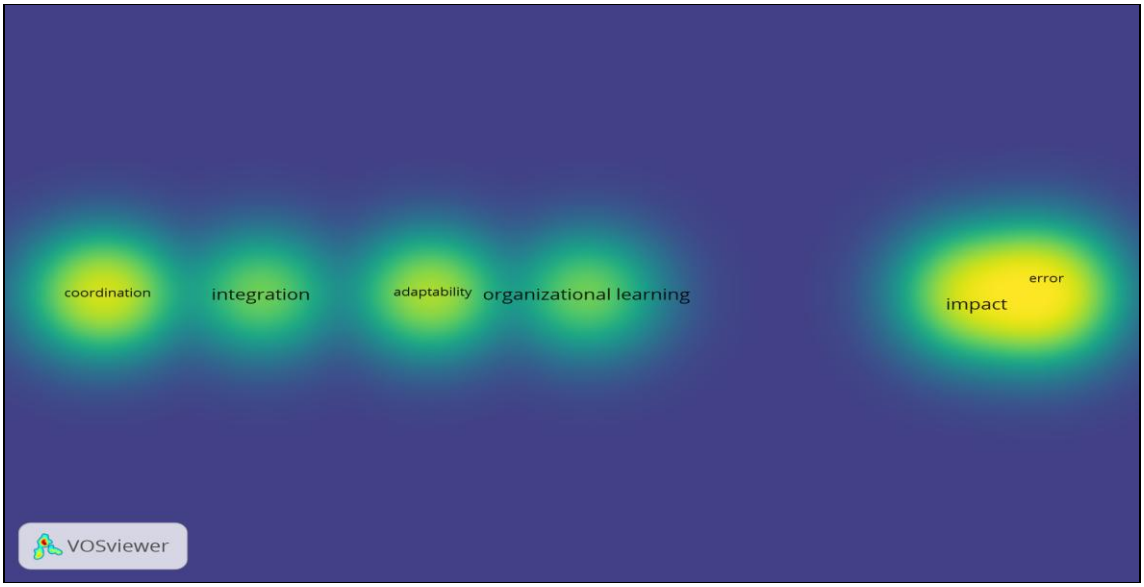
Figure 3.3 visualizes the keyword co-occurrence network, which reveals thematic linkages and conceptual structures within the literature on learning from failure and firm performance. Each node represents a keyword, and the size reflects its frequency in the reviewed documents, while the connecting lines indicate the co-occurrence strength. The network is organized into three primary color-coded clusters—green, blue, and red—which together trace the conceptual pathway from internal processes to performance outcomes.

On the left, the green cluster includes keywords such as coordination and integration, representing foundational organizational mechanisms. These terms reflect the structural and relational capabilities that enable firms to align resources and manage inter-departmental knowledge flow following a failure. Their close linkage suggests that effective integration is a prerequisite for coordinated learning responses.

Moving toward the center, the blue cluster—with terms like adaptability and organizational learning—marks the transition from structural alignment to dynamic capability development. Organizational learning serves as a pivotal node connecting early-stage integration with later-stage outcomes, highlighting its mediating role. This cluster captures the essence of how firms evolve by transforming experiential failures into learning opportunities that foster adaptability and innovation.

On the right, the red cluster contains impact and error, indicating the performance and evaluative outcomes of the learning process. The size of "impact" suggests it is the dominant research focus, representing how organizational learning from failure ultimately influences firm performance, resilience, and competitive advantage. The proximity between "error" and "impact" emphasizes that understanding, analyzing, and correcting errors is fundamental to achieving positive strategic outcomes.

This sequential progression—from coordination and integration (green), to adaptability and learning (blue), and finally to impact (red)—illustrates a conceptual continuum linking organizational processes with strategic outcomes. The map demonstrates that effective learning from failure is not a single event but a dynamic, multi-stage process integrating coordination, adaptability, and knowledge assimilation. Overall, this visualization provides a holistic representation of how scholarly discourse conceptualizes the path from failure recognition to firm performance improvement, reinforcing the idea that learning from failure serves as a strategic capability underpinning long-term organizational success.



Source: VOS Viewer

Fig 3.4: Density Visualization of Keywords Re-occurrence

4. Quantitative Data Analysis

Table 4: data analysis methods used in Literature 3.4.1 Quantitative Data Analysis

Method	No. of Articles
Structural Equation Modeling (SEM)	12
PLS-SEM	9
Regression	29
— Hierarchical Regression Model	6
— Regression Model	5
— OLS Regression	3
— Linear Regression Model	4
— Multiple Regression Model	4
— Quantile Regression Model	1
— Logistic Regression Model	1
— Serial Regression Model	1
t-test	2
Z-test	1
ANOVA	2
Bootstrap Method	4

Source: Authors' Own Work

5. Qualitative Data Analysis

Method	No. of Articles
Case Study Method	14
Conceptual/Theoretical Model	4
Exploratory Analysis	5
Interviews / Narrative Analysis	6

Source: Authors' Own Work

Structural Equation Modeling (SEM) and PLS-SEM are reported in papers focusing on SMEs' innovation and failure-based learning, particularly 2018–2024 studies (e.g., Yu *et al*., 2019; Kim & Lee, 2020) [30, 53]. Regression methods include linear, multiple, hierarchical, and OLS models used in studies analyzing relationships between failure-based learning and performance outcomes. Qualitative methods largely consist of case studies, interviews, and conceptual models, used to explore contexts like family businesses, industry networks, or management learning experiences.

5.1 The Impact of Failure-Based Learning on Organizational Resilience and Adaptability in Dynamic Market Conditions

Failure-based learning (FBL) has emerged as a critical determinant of organizational resilience and adaptability, particularly in volatile and dynamic market environments. Scholars argue that the ability to convert failure experiences into organizational knowledge forms the foundation of sustained competitive advantage (Desai, 2010; Khanna, Guler, & Nerkar, 2016) [16, 28]. This learning mechanism allows organizations to identify system inefficiencies, improve strategic foresight, and enhance their adaptive capacity. Lee and Park (2024) [33] examined cardiac surgeons and found that learning from personal failure enhances resilience when institutional cultures promote open reflection rather than punitive responses. Their findings underline the contextual dependency of FBL—resilience emerges when organizations treat errors as feedback loops rather than terminal setbacks.

The adaptive potential of FBL also depends on the magnitude and frequency of failures. Khanna *et al*. (2016) [28] showed that frequent small failures accelerate organizational learning and improve R&D outcomes, whereas catastrophic failures often stifle innovation due to risk aversion. Coccia (2024) [12] introduced a "theory of errors in innovation failure," emphasizing that controlled failure fosters strategic flexibility by training organizations to navigate uncertainty systematically. Similarly, Yu, Ming, and Jie (2019) [53] highlighted that failure-based behaviors enhance opportunity identification and new product development performance, reinforcing adaptability as a core outcome of learning through error.

Studies on entrepreneurial ecosystems reinforce this link between failure and resilience. Scuotto *et al*. (2024) [46] conceptualized innovation failure as both adversity and opportunity, proposing that the entrepreneurial mindset transforms setbacks into cognitive resources for renewal. In family businesses, Hayrapetyan and Simon (2024) [21] found that failure analysis often catalyzes strategic reorientation and emotional resilience, supporting long-term business continuity. Furthermore, Amore, Garofalo, and Martin-Sanchez (2021) [2] identified optimism as a double-edged trait—while it promotes perseverance, excessive optimism may hinder reflective learning and impede adaptive growth.

Empirical evidence across industries suggests that organizations that institutionalize post-failure reviews exhibit higher resilience metrics. Beck *et al*. (2020) [4] demonstrated that decision aids promoting feedback interpretation improved non-experts' ability to adapt after setbacks. Similarly, Krieger (2021) [31] found that firms observing competitors' R&D failures developed adaptive learning mechanisms that reduced future project risks. These insights collectively affirm that resilience is not merely a reactive trait but a cultivated capability derived from systematic reflection and iteration.

In dynamic markets—characterized by technological turbulence and competitive uncertainty—FBL acts as an adaptive stabilizer. Cannavacciuolo *et al*. (2017) [9] emphasized that learning by failure fosters collaborative entrepreneurial networks that collectively strengthen resilience through shared experience. The iterative cycle of failing, reflecting, and refining builds organizational "learning agility," a concept aligned with Carmeli and Dothan's (2017) [10] notion of generative work relationships that transform individual learning into collective adaptability. Thus, organizational resilience and adaptability are not natural outcomes of crisis endurance but intentional products of structured learning from failure. Through

psychological readiness, transparent feedback systems, and supportive leadership, failure transitions from an obstacle to a strategic learning asset.

5.2 Role of Psychological Safety and Managerial Attitudes

Psychological safety and managerial attitudes serve as foundational enablers of effective failure-based learning. Psychological safety refers to the shared belief that individuals can express ideas or mistakes without fear of retribution (Carmeli & Dothan, 2017) [10]. Within such environments, employees are more likely to engage in candid discussions about failures, promoting experiential learning and innovation. Desai (2014) [17] demonstrated that public disclosure of organizational failures enhances both internal and external trust when accompanied by managerial transparency. Conversely, cultures characterized by blame and defensiveness inhibit learning, as employees conceal mistakes to avoid punishment (Taylor & Wright, 2004) [51].

Managerial attitudes are pivotal in shaping these climates. Kim and Lee (2020) [30] found that leadership's tolerance for experimentation and errors directly determines the degree to which employees interpret failure as an opportunity for growth. Supportive leaders frame failure as a natural component of the innovation process, enhancing collective confidence and adaptability. Anderson and Caldwell (2017) [3] further highlighted that empathetic managerial behavior encourages open dialogue and emotional resilience, essential for sustaining learning-oriented work cultures.

Research on entrepreneurship echoes these findings. Politis and Gabrielsson (2009) [39] revealed that entrepreneurs' attitudes toward failure—particularly viewing it as a learning opportunity—foster psychological resilience and cognitive reframing. Similarly, Kauppinen, Paloniemi, and Juho (2021) [27] noted that mentoring relationships emphasizing emotional coping enable failed founders to reconstruct their performance narratives, catalyzing renewed entrepreneurial activity. In contrast, Amore *et al*. (2021) [2] warned that excessive optimism in leaders may diminish reflective learning, as overconfidence suppresses acknowledgment of strategic missteps.

Psychological safety is also crucial for vicarious learning from others' failures. Krieger (2021) [31] demonstrated that when managerial teams cultivate safe spaces for discussing competitors' failures, organizations can extract valuable insights without direct experience of loss. Moreover, Say and Vasudeva (2020) [45] found that firms responding to digital failures through open managerial communication—rather than leadership turnover—exhibited superior recovery and strategic coherence. This suggests that adaptive managerial attitudes mitigate the paralyzing effects of failure by transforming uncertainty into structured learning.

In dynamic sectors such as healthcare and technology, psychological safety acts as a buffer against burnout and decision paralysis. Lee and Park (2024) [33] showed that heart surgeons' willingness to analyze personal errors depended on their trust in leadership's non-punitive stance. Similarly, Hunt, Watts, and Bryant (2018) [23] illustrated that global corporations like Walmart learned from international miscalculations when leadership reframed mistakes as learning opportunities. These examples reinforce that psychological safety, coupled with constructive managerial attitudes, fosters collective reflection—a precondition for innovation and long-term success.

Ultimately, organizations that embed psychological safety into managerial practices transform failure from a liability into a strategic learning tool. This synergy between leadership empathy and open culture ensures that lessons from failure are internalized, enhancing resilience and sustaining organizational learning over time.

5.3 Key Organizational Factors—Leadership Style, Culture, and Knowledge-Sharing Practices—Influencing Learning from Failure in SMEs

Small and medium-sized enterprises (SMEs) rely heavily on organizational factors such as leadership style, culture, and knowledge-sharing systems to transform failures into learning experiences. In resource-constrained contexts, these elements determine whether failure becomes a stepping stone or a setback. Leadership style serves as the primary driver. Transformational leaders who inspire trust and intellectual stimulation encourage employees to analyze failures constructively (Carmeli & Dothan, 2017; Anderson & Caldwell, 2017) [3, 10]. Conversely, authoritarian or transactional styles often suppress error reporting, hindering organizational learning (Taylor & Wright, 2004) [51].

Organizational culture provides the psychological framework within which failure-based learning occurs. Cannavacciuolo *et al*. (2017) [9] revealed that entrepreneurial networks that value experimentation and collaboration sustain cultures where mistakes are treated as learning opportunities rather than liabilities. Similarly, Singh and Guha (2018) [48] found that firms in the Indian telecom sector achieved performance improvement when they institutionalized reflective practices around both success and failure. This cultural maturity aligns with Sorenson's (2003) [49] observation that interdependence and adaptability stem from continuous organizational learning processes embedded in shared values.

Knowledge-sharing practices further reinforce these dynamics by transforming individual lessons into organizational assets. Riedl and Seidel (2019) [43] demonstrated that online innovation communities thrive when feedback from failed attempts is openly shared, enabling cross-project learning. SMEs that implement systematic post-mortem reviews, according to Desai (2014) [17], strengthen internal trust and prevent the repetition of errors. Similarly, Leung *et al*. (2019) [34] highlighted that cooperative peer networks enhance both competitive awareness and collective problem-solving capabilities. These findings emphasize that SMEs' ability to learn from failure depends on transparent communication and collaborative reflection.

Leadership and culture interact synergistically in shaping these outcomes. Black and Morrison (2012) [7] illustrated how Japanese firms' humility-driven leadership styles fostered collective learning, integrating failures into long-term improvement cycles. In contrast, Meschi and Métais (2015) [37] observed that large acquisition failures often prompted divestment due to rigid hierarchies and poor internal knowledge flow. For SMEs, flexible leadership and adaptive cultures are therefore crucial for sustaining knowledge continuity amid failures.

Moreover, organizational storytelling plays an underexplored role in reinforcing knowledge-sharing cultures. Haunts (2022) [20] argued that narrative-driven communication allows leaders to humanize failure, fostering shared understanding and trust. When managers frame

failures as collective learning milestones, they reinforce resilience and team cohesion. This approach resonates with Yu *et al*. (2019) [53], who linked failure-based learning behaviors with enhanced opportunity recognition and innovation performance.

Ultimately, effective learning from failure in SMEs is contingent upon the triadic integration of leadership vision, open culture, and knowledge-sharing mechanisms. As Coleman (2016) [13, 14] asserted, optimal risk strategies depend not on avoiding errors but on leveraging them for strategic recalibration. By embedding reflective leadership, fostering psychologically safe cultures, and enabling transparent knowledge systems, SMEs can convert failure into a dynamic source of resilience, adaptability, and sustained innovation.

Discussion

ADO (Analysis, Discussion, and Outcome) Table on Learning from Failure and Organizational Adaptability

Study Concentration	Key Articles	Notable Findings
Learning from Individual and Organizational Failures	Lee & Park (2024) [33]; Kim & Lee (2020) [30]; Desai (2010) [16]; Khanna *et al*. (2016) [28]	Lee & Park (2024) [33] reveal that even experts like surgeons often disengage from learning after failure due to ego threats and emotional exhaustion. Kim & Lee (2020) [30] found that innovation characteristics determine whether firms treat failures as opportunities for learning. Desai (2010) [16] and Khanna *et al*. (2016) [28] emphasize that continuous, smaller failures foster adaptive capacity and organizational improvement over time.
Innovation and Failure Management	Coccia (2024) [12]; Scuotto *et al*. (2024) [46]; Sethi & Iqbal (2008) [47]; Cannavacciuolo *et al*. (2017) [9]	Coccia (2024) [12] proposes a "theory of errors" highlighting innovation failure as a necessary process for long-term success. Scuotto *et al*. (2024) [46] describe innovation failure as both an adversity and an opportunity, depending on entrepreneurial resilience. Sethi & Iqbal (2008) [47] warn that excessive stage-gate control inhibits innovation learning, while Cannavacciuolo *et al*. (2017) [9] stress micro-strategies that turn habitual reflection on failure into network-based learning advantages.
Psychological and Emotional Dimensions of Failure-Based Learning	Amore *et al*. (2021) [2]; Kauppinen *et al*. (2021) [27]; Carmeli & Dothan (2017) [10]; Politis & Gabrielsson (2009) [39]	Amore *et al*. (2021) [2] show optimism bias as a cognitive barrier preventing entrepreneurs from acknowledging and learning from failure. Kauppinen *et al*. (2021) [27] emphasize that mentoring helps failed entrepreneurs cope with grief and reignite learning. Carmeli & Dothan (2017) [10] find that generative relationships foster emotional safety, allowing failure-based reflection. Politis & Gabrielsson (2009) [39] suggest experiential learning helps shift negative emotions into constructive insights.
Managerial Attitudes, Leadership, and Psychological Safety	van der Westhuizen & Garnett (2014) [52]; Black & Morrison (2012) [7]; Anderson & Caldwell (2017) [3]; Street *et al*. (2011) [50]	These studies show that leadership practices promoting openness and trust enhance learning from failure. Anderson & Caldwell (2017) [3] argue that competitive advantage depends on leadership fostering resilience. Street *et al*. (2011) [50] demonstrate that managerial flexibility in dynamic environments accelerates learning responses to failure.
Interorganizational and Network-Based Learning	Leung *et al*. (2019) [34]; Riedl & Seidel (2019) [43]; Jimenez *et al*. (2020) [24]	Leung *et al*. (2019) [34] highlight peer networks as vital for shared experiential learning. Riedl & Seidel (2019) [43] indicate that "mixed signals" from online innovation communities create valuable opportunities for interpretive learning. Jimenez *et al*. (2020) [24] add that vicarious experience and cultural context affect the quality of learning from others' failures.
Failure-Based Learning and Organizational Resilience	Sorenson (2003) [49]; Laamanen *et al*. (2016) [32]; Desai (2014) [17]; Hunt *et al*. (2018) [23]	Sorenson (2003) [49] emphasizes adaptability through integrated learning systems. Laamanen *et al*. (2016) [32] analyze Nokia's fall as a case of leadership overconfidence undermining adaptive learning. Desai (2014) [17] finds that public disclosure of failure can enhance organizational legitimacy and resilience when framed transparently. Hunt *et al*. (2018) [23] show that multinational firms' adaptive learning from failure determines their global success.
Entrepreneurial Failure and Re-Entry Learning	Hayrapetyan & Simon (2024) [21]; Corbett *et al*. (2007) [15]; Prevost (2007) [41]	Hayrapetyan & Simon (2024) [21] identify cultural and family-related antecedents of business failure that shape recovery strategies. Corbett *et al*. (2007) [15] show cognitive development and "termination scripts" as tools for learning from terminated projects. Prevost (2007) [41] emphasizes that entrepreneurs who document and systematize lessons from failure perform better in future ventures.
Knowledge-Sharing and Learning Systems	Taylor & Wright (2004) [51]; Santos-Vijande *et al*. (2013) [44]; Beck *et al*. (2020) [4]; Joseph & Makhecha (2020) [25]	Taylor & Wright (2004) [51] discuss organizational readiness as a precondition for knowledge sharing. Santos-Vijande *et al*. (2013) [44] show integrated service recovery systems enhance knowledge-based services. Beck *et al*. (2020) [4] find that decision aids improve non-expert learning. Joseph & Makhecha (2020) [25] demonstrate how structured innovation platforms (e.g., idea trees) facilitate collective learning from failed ideas.
Strategic Management of Failure in Dynamic Markets	Meschi & Métais (2015) [37]; Chao *et al*. (2014) [11]; Coleman (2016) [13, 14]; Revest & Sapio (2013) [42]	Meschi & Métais (2015) [37] warn that large-scale acquisition failures hinder future learning due to overconfidence. Chao *et al*. (2014) [11] reveal that stage-gate incentives affect adaptive innovation. Coleman (2016) [13, 14] stresses optimal risk calibration as vital for resilient firms. Revest & Sapio (2013) [42] show that dynamic financial markets reward firms with adaptive, failure-tolerant cultures.
Sector-Specific Learning and Adaptability Cases	Singh & Guha (2018) [48]; Kim (2007) [29]; Holloway & Wang	Singh & Guha (2018) [48] illustrate how Indian telecom firms use experiential learning to turn failure into innovation. Kim (2007) [29] analyzes Daewoo's

	(2015) [22]; Yu *et al*. (2019) [53]	collapse as a lesson in overextension and lack of adaptive leadership. Holloway & Wang (2015) [22] link service failure recovery with long-term relationship retention. Yu *et al*. (2019) [53] demonstrate that minor failure-based learning improves product development outcomes.

Source: Authors' Own Work

Across these studies, failure-based learning emerges as a cornerstone for organizational resilience, provided firms have psychological safety, open leadership, and structured learning systems. The evidence also underscores that SMEs benefit most when failure is institutionalized as a learning opportunity rather than an endpoint, and when leaders model adaptability through transparent communication, mentorship, and knowledge-sharing mechanisms.

Implications of the Study

This study underscores that learning from failure is a strategic capability that significantly contributes to firm performance, resilience, and innovation. The findings suggest that failure is not merely an operational setback but an essential feedback mechanism that shapes adaptive decision-making and organizational renewal. Integrating insights from behavioral learning theory and dynamic capability theory, this review establishes that learning from failure enhances firms' ability to reconfigure resources, manage uncertainty, and exploit emerging opportunities. The results further highlight that firms which institutionalize error reporting, knowledge sharing, and reflective learning processes are better positioned to recover from crises and maintain competitive advantage. Moreover, the study emphasizes that failure-based learning is a cross-disciplinary concept linked to psychology, strategy, and organizational behavior, expanding its theoretical significance beyond conventional management paradigms. Hence, this review contributes to the theoretical consolidation of failure learning as a central construct within strategic management and innovation research. It also encourages scholars to explore how contextual variables such as leadership style, organizational culture, and cognitive framing influence the translation of failure into performance gains.

1. For Theory and Theory Development

The review contributes to theory by bridging fragmented perspectives on failure learning across multiple disciplines. It refines the theoretical understanding of how failure functions as a dynamic input to firm learning systems and strategy formation. Traditional theories—such as organizational learning and dynamic capabilities—have often treated failure as a negative deviation. However, this study repositions failure as a strategic stimulus that triggers knowledge creation, capability development, and innovative recombination. By synthesizing behavioral, cognitive, and resource-based perspectives, the study proposes a more integrative theoretical model that connects learning from failure to sustainable competitive advantage. It also introduces the idea that psychological safety and reflective capability are mediating mechanisms between failure experiences and firm performance. Furthermore, the review emphasizes that failure learning is cyclical rather than linear, involving iterative feedback, experimentation, and re-alignment with strategic goals. This theoretical advancement encourages scholars to move beyond single-event analyses toward understanding failure as an evolving learning process embedded within firm systems, culture, and leadership orientations. Ultimately, this contributes to the evolution of a unified theory of failure-driven learning for strategic management research.

2. For Business and Management Practice

From a managerial perspective, this study provides actionable insights for designing systems that convert failure into strategic advantage. Businesses should adopt a culture of psychological safety where mistakes are treated as opportunities for collective learning rather than blame. Managers can institutionalize after-action reviews, failure audits, and cross-functional knowledge-sharing sessions to capture lessons from unsuccessful projects. The review also indicates that leadership plays a pivotal role in shaping how organizations interpret and respond to failure. Transformational and learning-oriented leaders can motivate teams to experiment, take calculated risks, and engage in constructive reflection. Additionally, firms should integrate technological tools, such as data analytics and knowledge management systems, to document and disseminate failure insights across departments. Embedding learning from failure within performance management frameworks can improve innovation efficiency and employee engagement. For SMEs, cultivating resilience through incremental learning helps sustain competitiveness in volatile environments. The findings also inform policymakers and educators by emphasizing the need to build entrepreneurial ecosystems that normalize failure as part of the innovation process. In essence, the practical implication is clear: organizations that strategically manage and learn from failure can transform vulnerabilities into long-term performance capabilities.

Directions for Future Research

This systematic review identifies critical gaps in the literature and proposes multiple avenues for future inquiry. While existing studies acknowledge the value of learning from failure, empirical evidence remains fragmented and context-specific. Future research should employ longitudinal and cross-cultural analyses to capture the temporal and contextual dynamics of failure learning. The integration of behavioral science, cognitive psychology, and digital transformation perspectives can enrich the understanding of how individuals and firms convert failure experiences into organizational assets. Scholars are also encouraged to examine the interaction between leadership behavior, organizational design, and learning orientation in shaping failure responses. Another promising direction is exploring how digital ecosystems, AI-driven feedback systems, and data analytics support real-time learning from errors. Future work should also test the mediating and moderating effects of cultural norms, institutional pressures, and psychological factors on the failure–performance link. Overall, advancing the field will require interdisciplinary approaches, robust measurement frameworks, and greater attention to both micro- (individual) and macro- (organizational and institutional) levels of analysis to fully

understand how failure can be transformed into strategic success.

1. Future Directions: Theory

Future research should further develop an integrated theoretical framework that connects learning from failure with firm performance outcomes through the lenses of dynamic capabilities, resilience theory, and organizational ambidexterity. Existing theories often treat failure learning as a subset of experiential learning, yet the concept deserves standalone theoretical treatment. Scholars should explore how failure learning interacts with absorptive capacity and knowledge-based views to shape innovation trajectories. Incorporating cognitive dissonance and psychological safety into theoretical models will help explain why some organizations thrive after failure while others stagnate. Furthermore, future theoretical development should consider feedback loops, sense-making, and unlearning mechanisms as critical dimensions of failure learning. The concept can also be linked with institutional and behavioral theories to explain how organizational legitimacy and cultural factors mediate the translation of failure into adaptive strategies. Thus, future theoretical advancement should aim at constructing multi-level, process-oriented models that explain the dynamic interplay between failure experiences, learning processes, and strategic renewal.

2. Future Directions: Contexts

Contextual diversity is essential for advancing research on failure-based learning. Most existing studies are concentrated in Western economies or high-tech industries, leaving significant gaps in understanding how different institutional, cultural, and industrial settings shape learning from failure. Future research should explore emerging markets, family-owned businesses, and social enterprises where resource constraints and cultural perceptions of failure differ greatly. Investigations into public organizations, start-ups, and non-profit sectors can provide contrasting insights into how mission-driven versus profit-driven contexts influence the dynamics of failure learning. Moreover, cross-country comparative studies can reveal how national culture, regulatory environments, and societal tolerance for failure affect firms' recovery and adaptation processes. By examining underrepresented contexts such as developing economies or traditional manufacturing sectors, scholars can broaden the generalizability of failure learning theories and uncover novel context-specific mechanisms that contribute to firm resilience and sustainable competitiveness.

3. Future Directions: Methods

Methodologically, future studies should move beyond qualitative case studies to adopt mixed-method, longitudinal, and experimental research designs. Quantitative modeling using structural equation modeling (SEM) or multilevel analysis can capture the complex relationships between failure experiences, learning behaviors, and performance outcomes. Longitudinal data will allow scholars to observe how organizations evolve after repeated failures, highlighting temporal patterns and feedback effects. Experimental and simulation-based studies can test how cognitive biases, leadership behaviors, and emotional factors influence learning from failure in controlled environments. Moreover, the increasing availability of big data and artificial intelligence opens possibilities for using machine learning to detect patterns of failure and recovery across industries. Network analysis and bibliometric mapping can identify emerging research clusters and conceptual interconnections. Hence, methodological diversification—combining behavioral data, digital trace analysis, and field experiments—will significantly enhance the robustness and explanatory power of future research on failure learning.

4. Future Directions: Antecedents

Identifying the antecedents of learning from failure remains an underdeveloped area. Future research should examine individual-level factors such as emotional intelligence, resilience, openness to experience, and leadership orientation that predispose actors to learn constructively from failure. At the organizational level, antecedents may include culture, structure, communication climate, and the availability of psychological safety. Institutional antecedents—such as societal attitudes toward failure, regulatory frameworks, and industry competitiveness—also shape how organizations perceive and respond to setbacks. Future work could explore the interplay between these antecedents to develop predictive models explaining when and why learning from failure occurs. Moreover, exploring the role of digital technologies, such as analytics dashboards and innovation management tools, as enablers of proactive learning behavior, can expand the theoretical boundary of antecedent research.

5. Future Research: Decisions

Decision-making processes are central to how organizations interpret and act upon failure. Future research should investigate how leaders make post-failure strategic decisions under uncertainty, and how biases like overconfidence or escalation of commitment impede learning. Studies could explore decision frameworks that balance risk-taking with reflective control, promoting deliberate experimentation. Integrating insights from behavioral economics, cognitive psychology, and management science could reveal how firms optimize decision quality after experiencing failure. Additionally, the role of collective decision-making and diversity in leadership teams deserves more attention. Understanding how group dynamics, power structures, and emotional contagion affect post-failure decisions will help organizations design governance systems that transform learning into improved strategic outcomes. Therefore, future work should link decision quality, adaptive reasoning, and institutional feedback loops to the broader construct of failure-based organizational learning.

6. Future Research: Outcomes

Future studies should deepen understanding of how learning from failure translates into tangible and intangible outcomes. Beyond financial recovery, failure learning can generate improved innovation performance, knowledge retention, employee engagement, and organizational reputation. Scholars should explore multi-dimensional outcome frameworks encompassing psychological, cultural, and relational dimensions. Measuring performance outcomes over time can reveal whether learning from failure produces short-term adaptability or long-term strategic renewal. Furthermore, the impact of failure learning on sustainability practices, digital transformation, and

stakeholder trust remains largely unexplored. Future outcome studies could integrate balanced scorecard or triple-bottom-line perspectives to assess how learning from failure contributes to economic, social, and environmental performance. Such research would clarify the broader value of failure learning in achieving organizational resilience and sustainable competitive advantage.

Conclusion

The systematic review concludes that learning from failure is a fundamental strategic process that drives firm performance, innovation, and adaptability. Failure serves as an experiential resource that, when effectively analyzed and internalized, strengthens an organization's knowledge base and decision-making capacity. The synthesis of diverse theoretical and empirical insights highlights that success in turbulent environments depends not on the absence of failure but on the capability to learn from it. The study establishes learning from failure as a multidimensional construct integrating behavioral, organizational, and institutional perspectives. It emphasizes that psychological safety, leadership support, and structured reflection systems are key enablers of turning failure into strategic advantage. For practitioners, cultivating an open culture of experimentation and continuous learning is essential for long-term competitiveness. For scholars, the review provides a theoretical foundation for future interdisciplinary research linking failure learning to firm resilience, innovation, and sustainability. Ultimately, the capacity to embrace and learn from failure distinguishes organizations that merely survive from those that continuously evolve and thrive.

References

1. American Society for Engineering Management (ASEM). Proceedings of the 2017 International Annual Conference of the American Society for Engineering Management (ASEM), 2017.
2. Amore MD, Garofalo O, Martin-Sanchez V. Failing to learn from failure: How optimism impedes entrepreneurial innovation. Organization Science,2021:32(4):940–964.
3. Anderson V, Caldwell C. Strategy, competitive advantage, and performance, 2017, 1–12.
4. Beck G, Farkas M, Wheeler P, Arunachalam V. Decision-aids for non-expert decision makers: An experimental investigation of performance and learning. Journal of Accounting and Organizational Change,2020:16(2):169–188.
5. Bell M, Ross-Larson B, Westphal LE. Assessing the performance of infant industries. Journal of Development Economics,1984:16(1):101–128.
6. Belmont DP. Managing hedge fund risk and financing: Adapting to a new era, 2012, 1–361.
7. Black JS, Morrison AJ. The Japanese global leadership challenge: What it means for the rest of the world. Asia Pacific Business Review,2012:18(4):551–566.
8. Buffington J. An easy out: Corporate America's addiction to outsourcing, 2007, 1–187.
9. Cannavacciuolo L, Iandoli L, Ponsiglione C, Zollo G. Learning by failure vs learning by habits: Entrepreneurial learning micro-strategies as determinants of the emergence of co-located entrepreneurial networks. International Journal of Entrepreneurial Behaviour and Research,2017:23(3):524–546.
10. Carmeli A, Dothan A. Generative work relationships as a source of direct and indirect learning from experiences of failure: Implications for innovation agility and product innovation. Technological Forecasting and Social Change,2017:119:27–38.
11. Chao RO, Lichtendahl KC, Grushka-Cockayne Y. Incentives in a stage-gate process. Production and Operations Management,2014:23(8):1286–1298.
12. Coccia M. Theory of errors in innovation failure and strategic management of winning by failing. Technology Analysis and Strategic Management, 2024.
13. Coleman L. Risk strategies: Dialling up optimum firm risk, 2016, 1–250.
14. Coleman L. Risk strategies: Dialling up optimum firm risk, 2016.
15. Corbett AC, Neck HM, DeTienne DR. How corporate entrepreneurs learn from fledgling innovation initiatives: Cognition and the development of a termination script. Entrepreneurship Theory and Practice,2007:31(6):829–852.
16. Desai VM. Do organizations have to change to learn? Examining the effects of technological change and learning from failures in the natural gas distribution industry. Industrial and Corporate Change,2010:19(3):713–739.
17. Desai VM. Does disclosure matter? Integrating organizational learning and impression management theories to examine the impact of public disclosure following failures. Strategic Organization,2014:12(2):85–108.
18. Fotr J, Švecová L, Špacek M. Post project appraisals of investment project as a tool of learning. Ekonomicky Casopis,2009:57(7):633–652.
19. Gupta A, Misra L. Regulatory learning in failed thrift auctions. Journal of Banking and Finance,2002:26(4):651–669.
20. Haunts S. Powerful presentations: Selling your story on stage or in the boardroom, 2022, 1–115.
21. Hayrapetyan A, Simon A. Exploratory analysis of the antecedents of failure in family businesses: Cases from Catalunya. Journal of Family Business Management, 2024.
22. Holloway BB, Wang S. Service failure and recovery: Implications for relationship marketing, 2015, 123–152.
23. Hunt I, Watts A, Bryant SK. Walmart's international expansion: Successes and miscalculations. Journal of Business Strategy,2018:39(2):22–29.
24. Jimenez A, Bayraktar S, Puche-Regaliza JC, Herrero A. Corruption and private participation infrastructure projects: The influence of vicarious experience and national animosity. Canadian Journal of Administrative Sciences,2020:37(4):513–527.
25. Joseph N, Makhecha UP. Cyient: Enabling innovation through idea tree initiative. Emerald Emerging Markets Case Studies,2020:10(3):1–26.
26. Karagozoglu N, Fuller AW. Strategic aggressiveness: The effects of gain-thrust schema and core stakeholder salience. Journal of Managerial Issues,2011:23(3):301–322.
27. Kauppinen A, Paloniemi K, Juho A. Failed firm founders' grief coping during mentoring: Learning as the single catalyst of their restarting performance

narratives. International Journal of Management Education, 2021, 19(1). Article 100288.
28. Khanna R, Guler I, Nerkar A. Fail often, fail big, and fail fast? Learning from small failures and R&D performance in the pharmaceutical industry. Academy of Management Journal,2016:59(2):436–459.
29. Kim D-J. Falls from grace and lessons from failure: Daewoo and Medison. Long Range Planning,2007:40(4–5):446–464.
30. Kim N, Lee J. Who is leaping through failure? The influence of innovation characteristics on learning from failure. Industry and Innovation,2020:27(9):1014–1039.
31. Krieger JL. Trials and terminations: Learning from competitors' R&D failures. Management Science,2021:67(9):5525–5548.
32. Laamanen T, Lamberg J-A, Vaara E. Explanations of success and failure in management learning: What can we learn from Nokia's rise and fall? Academy of Management Learning and Education,2016:15(1):2–25.
33. Lee S, Park J. Giving up learning from failures? An examination of learning from one's own failures in the context of heart surgeons. Strategic Management Journal,2024:45(10):2063–2094.
34. Leung A, Xu H, Wu GJ, Luthans KW. Industry peer networks (IPNs): Cooperative and competitive interorganizational learning and network outcomes. Management Research Review,2019:42(1):122–140.
35. Litan RE. Trillion-dollar economists: How economists and their ideas have transformed business, 2014, 1–385.
36. Llerena D. Integration of environmental issues in the firm: Learning processes and coordination. International Journal of Sustainable Development,1999:2(2):263–282.
37. Meschi P-X, Métais E. Too big to learn: The effects of major acquisition failures on subsequent acquisition divestment. British Journal of Management,2015:26(3):408–423.
38. Moudud JK. The hidden history of competition and its implications, 2012, 27–54.
39. Politis D, Gabrielsson J. Entrepreneurs' attitudes towards failure: An experiential learning approach. International Journal of Entrepreneurial Behaviour and Research,2009:15(4):364–383.
40. Prasad Acharya KP, Pathak S. Corrigendum: Applied research in low-income countries: Why and how? Frontiers in Research Metrics and Analytics, 2021, 6. Article 667663.
41. Prevost K. Learn the lessons of private equity. Paper360,2007:2(5):6–7.
42. Revest V, Sapio A. An essay on the emergence, organization and performance of financial markets: The case of the Alternative Investment Market, 2013, 69–99.
43. Riedl C, Seidel VP. Learning from mixed signals in online innovation communities. Organization Science,2019:29(6):1010–1032.
44. Santos-Vijande ML, Díaz-Martín AM, Suárez-Álvarez L, del Río-Lanza AB. An integrated service recovery system (ISRS): Influence on knowledge-intensive business services performance. European Journal of Marketing,2013:47(5):934–963.
45. Say G, Vasudeva G. Learning from digital failures? The effectiveness of firms' divestiture and management turnover responses to data breaches. Strategy Science,2020:5(2):117–142.
46. Scuotto V, Magni D, García Pérez A, Pironti M. The impact of innovation failure: Entrepreneurship adversity or opportunity? Technovation, 2024, 131. Article 102944.
47. Sethi R, Iqbal Z. Stage-gate controls, learning failure, and adverse effect on novel new products. Journal of Marketing,2008:72(1):118–134.
48. Singh S, Guha M. Experiential learning: Analyzing success and failures in Indian telecom sector. Benchmarking,2018:25(9):3702–3719.
49. Sorenson O. Interdependence and adaptability: Organizational learning and the long-term effect of integration. Management Science,2003:49(4):446–463.
50. Street VL, Marble H, Street MD. An empirical investigation of the influence of organizational capacity and environmental dynamism on first moves. Journal of Managerial Issues,2011:23(3):269–300.
51. Taylor WA, Wright GH. Organizational readiness for successful knowledge sharing: Challenges for public sector managers. Information Resources Management Journal,2004:17(2), 22–37.
52. van der Westhuizen JP, Garnett A. The correlation of leadership practices of first- and second-generation family business owners to business performance. Mediterranean Journal of Social Sciences,2014:5(21):27–38.
53. Yu YX, Ming TX, Jie LY. Greatness in trivialness? Failure-based learning behaviors, opportunity identification and new product development performance. Journal of Industrial Engineering and Engineering Management,2019:33(1):51–59.