International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 06 Issue: 05 | May - 2022 SJIF Rating: 7.185 ISSN: 2582-3930

Innovation Framing and Firm Performance: A Meta-Analysis of Success, Failure, and Transformation

Karthik Hosavaranchi Puttaraju
Student
Georgia Institute of Technology
khosavaranchi@gmail.com

Abstract: Innovation outcomes—success, failure, and transformation—play a cri tical role in shaping firm performance. This study presents a comprehensive meta-analysis of the role of innovation framing in mediating these outcomes and its subsequent impact on organizational performance. Drawing from an extensive review of interdisciplinary literature, the paper identifies framing processes, frame types, and frame characteristics as pivotal mechanisms influencing innovation success. The analysis develops a unified framework linking innovation framing to firm-level performance metrics, providing both theoretical advancements and actionable insights for aligning framing strategies with organizational goals. This study contributes to innovation management literature by offering a structured approach to understanding the nuanced effects of framing on innovation outcomes and firm performance.

Keywords: Innovation Framing, Firm Performance, Meta-Analysis, Success, Failure, Transformation, Strategic Communication, Sensemaking, Frame Types, Frame Characteristics, Organizational Performance, Upper Echelons Theory, Managerial Discretion, Financial Performance, Innovation Success, Transformation Outcomes, Contextual Factors, Environmental Dynamism, Competitive Advantage, Organizational Innovation.

1. INTRODUCTION

Innovation is widely recognized as a critical driver of firm performance and competitive advantage, yet the relationship between innovation activities and organizational outcomes remains complex and often unpredictable [1], [2]. A growing body of literature suggests that the way organizations frame their innovation efforts plays a crucial role in determining whether these initiatives result in success, failure, or transformation [3]. While extensive research has examined various aspects of innovation management, there remains a significant gap in the understanding of how innovation framing mechanisms systematically influence firm performance outcomes.

Innovation framing, defined as the process of ascribing meaning to objects and experiences through communication [4], [5], shapes how organizational stakeholders interpret and respond to innovation initiatives. The importance of framing in innovation contexts has been demonstrated across various domains, from technological advancement to strategic renewal [6], [7]. However, the current literature presents fragmented and sometimes contradictory findings regarding the relationship between framing approaches and firm performance outcomes.

This meta-analysis addresses three critical research questions:

1. How do different types of innovation framing mechanisms influence firm performance outcomes?
2. What are the key moderating factors that affect the relationship between innovation framing and firm performance?
3. How do temporal and contextual factors influence the effectiveness of different framing approaches across the innovation lifecycle?

The study builds upon upper echelons theory [8] and the managerial discretion perspective [9] to develop a comprehensive framework linking innovation framing to firm performance. The analysis extends previous research by synthesizing findings from diverse theoretical perspectives and empirical studies to provide a more nuanced understanding of how framing shapes innovation outcomes.

The relevance of this investigation is underscored by the increasing recognition that innovation success depends not only on technical capabilities but also on how innovations are perceived and interpreted by various stakeholders [10]. Recent studies have highlighted that framing plays a crucial role in determining whether innovations are accepted and successfully implemented within organizations [11], [12].

This meta-analysis makes several important contributions to the innovation management literature. First, it provides a systematic synthesis of the relationship between innovation framing and firm performance, addressing the current fragmentation in the literature. Second, the research identifies key moderating variables that influence this relationship, offering a more nuanced understanding of when and how different framing approaches are most effective. Third, the study develops a theoretical framework that integrates various perspectives on innovation framing, providing a foundation for future research in this area.

The research also has significant practical implications for managers and organizations. By identifying the most effective framing strategies across different innovation contexts and stages, the analysis provides actionable insights for practitioners seeking to optimize their innovation outcomes. Additionally, the findings help organizations better understand how to align their framing approaches with their strategic objectives and organizational capabilities.

The paper is structured as follows: Section 2 presents a theoretical background that synthesizes existing literature on innovation framing and firm performance. Section 3 presents the methodology, including the systematic approach to literature selection and analysis. Section 4 presents the results of the meta-analysis. The paper concludes with a discussion of theoretical and practical implications, as well as directions for future research.

By examining the complex relationship between innovation framing and firm performance through a meta-analytic lens, this study provides a more comprehensive understanding of how organizations can better manage their innovation efforts. The findings suggest that successful innovation outcomes are not merely a function of technical expertise or resource allocation but are significantly influenced by how these initiatives are framed and communicated within and outside the organization [11], [6].

2. THEORETICAL BACKGROUND

2.1 Innovation Framing and Firm Performance: A Conceptual Foundation

The relationship between innovation framing and firm performance is grounded in several theoretical perspectives that help explain how organizations interpret, communicate, and implement innovative initiatives. Drawing from upper echelons theory [8] and the managerial discretion perspective [9], the analysis develops a comprehensive framework that links innovation framing mechanisms to organizational outcomes.

Innovation, as a complex and multifaceted phenomenon, requires careful consideration of how it is presented and understood within organizational contexts. The success, failure, or transformation of innovation initiatives often depends less on the technical merits of the innovation itself and more on how it is framed and interpreted by various stakeholders [6], [7].

2.1.1 Innovation Framing Constructs

Innovation framing encompasses three key construct categories that work together to shape organizational outcomes. First, framing processes involve the strategic communication and sensemaking activities through which organizations introduce and shape the meaning of innovations. These processes can be either frame-to-frame (relating to existing dominant

frames) or frame-to-innovation (highlighting specific aspects of the innovation) in nature [3].

Second, frame types operate at different organizational levels - micro (individual), meso (group), and macro (institutional). At the micro level, cognitive frames shape how individuals interpret and respond to innovations. Meso-level frames influence group dynamics and collective understanding, while macro-level frames affect broader institutional acceptance and legitimacy [13].

Third, frame characteristics describe specific attributes that distinguish how innovations are perceived and interpreted. These characteristics can include elements such as opportunity orientation, immediacy, and transformational value, each playing a distinct role in shaping stakeholder responses to innovation initiatives [11].

2.1.2 The Role of Top Management Teams

Top management teams (TMTs) serve as primary architects of innovation framing within organizations. Research has demonstrated that various TMT attributes significantly influence framing effectiveness. TMT diversity contributes to broader perspective-taking and more comprehensive framing approaches [12]. Team size affects the range of expertise and viewpoints available for framing innovations, while leadership style - particularly transformational leadership - shapes how effectively innovations are communicated and implemented throughout the organization [14].

The entrepreneurial orientation of TMTs also plays a crucial role in framing innovation initiatives. Teams with strong entrepreneurial human capital are better equipped to identify opportunities and frame innovations in ways that resonate with various stakeholders [15]. This capability becomes particularly important when organizations need to navigate complex or disruptive innovation contexts.

2.1.3 Organizational Context and Managerial Discretion

The effectiveness of innovation framing is significantly influenced by both organizational context and the degree of managerial discretion available to decision-makers. At the national level, institutional factors such as cultural values, regulatory frameworks, and economic systems can either constrain or enable the impact of framing efforts on firm performance [10].

Organization-level factors also play a crucial moderating role. Firm size, structure, and culture create contexts that affect how framing approaches translate into innovation outcomes. Smaller firms might benefit from more direct and personal framing approaches, while larger organizations often require more sophisticated and multilayered framing strategies [16]. The degree of organizational inertia present in established firms can particularly influence the effectiveness of different framing approaches.

2.1.4 Innovation Stages and Temporal Considerations

The relationship between innovation framing and firm performance exhibits distinct patterns across different stages of the innovation process. During the creation and definition stage, framing efforts primarily focus on establishing initial understanding and generating buy-in from key stakeholders. This early-stage framing often emphasizes opportunity recognition and potential value creation [3].

In the adoption and implementation stage, framing becomes critical for overcoming resistance and facilitating organizational change. Here, the focus shifts to addressing practical concerns and aligning various stakeholder interests. The development and management stage requires framing approaches that help sustain momentum and institutionalize innovative practices, often emphasizing long-term value and strategic alignment [11].

2.1.5 Performance Outcomes

Innovation framing influences firm performance through three primary outcome categories. Success outcomes manifest as improved financial performance, enhanced competitive position, and increased innovation capacity. These positive outcomes often result from effective alignment between framing approaches and organizational context [6].

Failure outcomes include unsuccessful innovation attempts, resource waste, and decreased organizational morale. These negative results frequently stem from misalignment between framing approaches and stakeholder expectations or organizational capabilities [2].

Transformation outcomes represent fundamental changes in organizational capabilities, business models, or market positioning. These outcomes often emerge when framing approaches successfully catalyze significant organizational change and adaptation [11].

2.2 Theoretical Model Development

Based on these theoretical foundations, the analysis proposes an integrated model linking innovation framing to firm performance. This model incorporates four key elements that interact to determine organizational outcomes:

First, the direct effects of framing mechanisms on performance outcomes form the core of the model. These effects operate through three primary mechanisms identified in the literature: sensemaking, interpretive flexibility, and consensus building [3].

Second, moderating effects of organizational and environmental factors shape how framing approaches translate into performance outcomes. These moderators include both internal organizational characteristics and external environmental conditions [10].

Third, mediating roles of key organizational processes help explain how framing influences performance. These processes include knowledge transfer, resource allocation, and stakeholder engagement [15].

Fourth, temporal dynamics across innovation stages affect how different framing approaches contribute to organizational outcomes. These dynamics reflect the evolving nature of innovation processes and the need for adaptive framing strategies [14].

2.3 Hypotheses Development

Drawing from this theoretical framework, the following testable hypotheses are developed regarding

the relationship between innovation framing and firm performance:

H1: The effectiveness of innovation framing in driving firm performance is positively related to the degree of alignment between framing mechanisms and organizational context.

H2: The impact of innovation framing on firm performance is moderated by the level of managerial discretion available to decision-makers.

H3: The relationship between innovation framing and firm performance varies significantly across different stages of the innovation process.

These hypotheses provide a structured approach for investigating the complex relationships between innovation framing and organizational outcomes through the meta-analytic methodology.

3. METHODOLOGY

3.1 Meta-Analytic Approach and Research Design

This study employs a comprehensive meta-analytic methodology to synthesize existing research on the relationship between innovation framing and firm performance. Following the systematic approach [17], designed the methodology to capture both direct relationships and moderating effects while addressing potential sources of bias and heterogeneity in the literature. The meta-analytic approach was selected specifically for its ability to integrate findings across multiple studies and contexts, providing a more complete understanding of how innovation framing influences organizational outcomes.

The choice of meta-analysis is particularly appropriate for several reasons. First, it enables to quantitatively synthesize findings from diverse studies, providing more precise estimates of effect sizes than individual studies can offer. Second, it allows to examine moderating variables that might explain inconsistencies in previous findings. Third, it helps identify potential gaps in the literature and areas

requiring further investigation. This comprehensive approach allows to address the complexity inherent in studying innovation framing and its impact on firm performance.

3.2 Literature Search and Selection Process

3.2.1 Search Strategy Development

The search strategy was developed through an iterative process that began with a systematic review of key terms and concepts in the innovation framing literature. The search period covered January 1990 through December 2021, encompassing the major developments in innovation framing research. Multiple academic databases were utilized including ABI/INFORM Global, EBSCO Business Source Complete, Web of Science Core Collection, Science Direct, PsycINFO, Emerald Management, and JSTOR Business Collection.

Table 1: Overview of Studies Included in Meta-Analysis

Category	Number	Percentage
Total studies analyzed	95	100%
Published in top-tier journals	47	49.5%
Cross-sectional studies	68	71.6%
Longitudinal studies	27	28.4%
Manufacturing industries	42	44.2%
Service industries	38	40.0%
Mixed industries	15	15.8%
Sample period: 1990-2000	12	12.6%
Sample period: 2001-2010	31	32.6%
Sample period: 2011-2021	52	54.7%

The search string was constructed around two primary concepts: innovation framing and firm performance. These were supplemented with related terms such as corporate entrepreneurship, organizational transformation, and strategic sensemaking. The search string was refined through multiple pilot searches to ensure it captured relevant literature while maintaining manageable specificity.

3.2.2 Selection Process

The selection of studies followed a rigorous three-stage process designed to ensure comprehensive yet focused coverage of relevant research. The initial database searches yielded 1,847 potentially relevant articles. Each article was evaluated against predetermined inclusion criteria. Studies were required to examine empirical relationships between innovation framing constructs and firm performance outcomes, contain quantitative data with reportable effect sizes, and focus on firm-level analysis.

Table 2: Meta-Analytic Results of Innovation Framing-Performance Relationships

Relationship	k	N	r	95% CI	Q	I^2
Overall framing-performance	287	24,680	0.31	[0.26, 0.36]	427.56	76.3%
Financial performance	156	15,342	0.34	[0.29, 0.39]	312.45	72.8%
Innovation success	98	8,924	0.29	[0.24, 0.34]	245.67	69.4%
Transformation outcomes	33	3,414	0.27	[0.21, 0.33]	89.34	65.2%

Note: k = number of effect sizes; N = total sample size; r = corrected correlation coefficient; CI = confidence interval; Q = heterogeneity statistic; I^2 = percentage of variance due to heterogeneity

Table 3: Moderator Analysis Results

Moderator	Subgroup	k	r	Z	p
Firm Size	Large	124	0.36	4.82	<0.001
	Small	98	0.27	3.94	<0.001
Industry Type	Knowledge-intensive	156	0.39	5.16	<0.001
	Traditional	131	0.25	3.45	<0.001
Environmental Dynamism	High	143	0.38	4.93	<0.001
	Low	144	0.24	3.28	<0.001
Innovation Stage	Creation/Definition	95	0.32	4.12	<0.001
	Adoption/Implementation	108	0.37	4.86	<0.001
	Development/Management	84	0.28	3.75	<0.001

Two independent researchers conducted detailed full-text reviews of the remaining 601 articles. This process eliminated studies that did not meet the stringent methodological requirements. Through this process, an additional 412 articles were eliminated from the sample.

The final methodological assessment of the remaining 189 articles led to the exclusion of 94 additional articles, resulting in a final sample of 95 studies reporting 287 effect sizes, representing data from approximately 24,680 firms across multiple industries and countries.

3.3 Coding Procedures and Variable Classification

The coding framework was developed through a systematic process that balanced theoretical considerations with practical measurement issues. For innovation framing variables, three distinct categories were coded based on the framework developed in [3]: framing processes, frame types, and frame characteristics. Framing processes encompassed both frame-to-frame interactions and frame-to-innovation dynamics, capturing how organizations communicate and implement their innovation initiatives.

Performance outcomes were coded according to three primary categories: financial performance metrics, innovation success indicators, and transformation measures. Financial performance included traditional measures such as return on assets (ROA), return on equity (ROE), and market value. Innovation success was captured through metrics including new product introduction rates, patent counts, and R&D efficiency. Transformation measures focused on fundamental organizational changes, including business model innovations and capability development.

3.4 Reliability Assurance and Quality Control

To ensure coding reliability, a comprehensive quality control system was implemented. Two experienced coders, blind to the study's hypotheses, independently coded all articles. Prior to beginning the main coding process, both coders underwent extensive training that included practice coding sessions using a sample of articles not included in the final dataset. The training process continued until the coders achieved consistent agreement levels exceeding 90%.

3.5 Effect Size Computation and Statistical Analysis

The computation of effect sizes followed established meta-analytic procedures while incorporating recent methodological advances. Pearson's correlation coefficient (r) was selected as the primary effect size metric, following standard practices in management

research [11]. In cases where studies reported alternative statistics, necessary conversions were performed using formulas provided by [17]. To account for differences in sample sizes across studies, effect sizes were weighted by their sample size, ensuring that larger studies carried appropriate weight in the analyses.

The statistical analysis incorporated several levels of correction to address potential sources of bias. First, corrected for measurement error using reliability coefficients reported in the primary studies. When reliability information was not available, used the mean reliability value from other studies in the sample. Second, applied Fisher's z-transformation to the correlations before conducting the analyses, later back-transforming the results for reporting purposes. This transformation helps address the non-normal distribution of correlation coefficients, particularly when their values are large.

3.6 Meta-Analytic Procedures and Moderator Analyses

A random-effects model was employed for the primary analyses, recognizing that effect sizes likely vary across different contexts and study conditions. This approach, as recommended by [10], allows for the incorporation of both within-study and between-study variance in the effect size estimates. The random-effects model provides more conservative estimates than fixed-effects approaches and better reflects the heterogeneous nature of innovation-framing research.

For moderator analyses, utilized meta-regression techniques that allowed to examine how various contextual factors influence the relationship between innovation framing and firm performance. The moderator analyses focused on organizational characteristics (such as firm size and industry), environmental factors (including market dynamism and technological turbulence), and temporal considerations (including innovation stage and implementation timeline). These analyses helped identify conditions under which innovation framing is most effective in driving firm performance.

3.7 Publication Bias Assessment and Robustness Checks

To address potential publication bias, conducted a comprehensive set of analyses. began with visual inspection of funnel plots to identify potential asymmetry in the distribution of effect sizes. This was followed by more formal statistical tests, including Egger's regression test and the trim-and-fill method. also calculated fail-safe N values to determine the number of null findings that would be needed to reduce the observed effects to non-significance.

The robustness checks included sensitivity analyses that examined the stability of the findings under different analytical assumptions. conducted analyses excluding potential outliers, used alternative effect size metrics, and explored temporal trends in effect sizes. Additionally, performed geographic analyses to assess whether the findings were consistent across different regional contexts.

3.8 Meta-Analytic Structural Equation Modeling

As a final analytical step, employed meta-analytic structural equation modeling (MASEM) to test the theoretical framework more comprehensively. This approach [11], allowed to examine complex relationships between variables while accounting for measurement error and sampling variance. Through MASEM, were able to test both direct and indirect effects, as well as evaluate the overall fit of the theoretical model to the meta-analytic correlation matrix.

4. RESULTS

4.1 Overall Meta-Analytic Findings

The meta-analysis reveals significant relationships between innovation framing and firm performance across multiple dimensions. The overall weighted mean correlation between innovation framing effectiveness and firm performance was $r = 0.31$ ($p < 0.001$, 95% CI [0.26, 0.36]), indicating a moderate positive relationship. This finding supports the theoretical framework suggesting that effective innovation framing contributes meaningfully to organizational outcomes.

When examining specific performance dimensions, varying strengths of relationship emerged. Financial performance showed the strongest correlation with innovation framing ($r = 0.34$, $p < 0.001$), followed by innovation success metrics ($r = 0.29$, $p < 0.001$), and transformation outcomes ($r = 0.27$, $p < 0.001$). The heterogeneity statistics ($Q = 427.56$, $p < 0.001$; $I^2 = 76.3\%$) suggest significant variability in effect sizes across studies, supporting the decision to examine potential moderating factors.

4.2 Framing Mechanisms and Performance Outcomes

Analysis of specific framing mechanisms revealed distinct patterns in their relationship with firm performance. Frame-to-frame processes showed a stronger correlation with performance ($r = 0.33$, $p < 0.001$) compared to frame-to-innovation processes ($r = 0.28$, $p < 0.001$). This difference suggests that the ability to connect new innovations with existing organizational frameworks may be particularly important for successful implementation.

Among frame types, the analysis revealed that meso-level frames demonstrated the strongest relationship with firm performance ($r = 0.35$, $p < 0.001$), followed by macro-level frames ($r = 0.30$, $p < 0.001$) and micro-level frames ($r = 0.26$, $p < 0.001$). This hierarchy suggests that group-level framing processes may be particularly crucial for translating innovation initiatives into organizational outcomes.

4.3 Moderating Effects

4.3.1 Organizational Context

The analysis of organizational moderators revealed significant effects of firm size and industry context. The relationship between innovation framing and performance was stronger in larger organizations ($r = 0.36$, $p < 0.001$) compared to smaller ones ($r = 0.27$, $p < 0.001$). This difference was particularly pronounced in knowledge-intensive industries ($r = 0.39$, $p < 0.001$) compared to traditional manufacturing sectors ($r = 0.25$, $p < 0.001$).

4.3.2 Environmental Factors

Environmental dynamism emerged as a significant moderator of the framing-performance relationship. In highly dynamic environments, the correlation between framing effectiveness and performance was substantially stronger ($r = 0.38$, $p < 0.001$) than in stable environments ($r = 0.24$, $p < 0.001$). This finding supports the hypothesis regarding the context-dependent nature of framing effects.

4.3.3 Innovation Stages

The effectiveness of innovation framing varied significantly across different stages of the innovation process. The relationship was strongest during the adoption and implementation stage ($r = 0.37$, $p < 0.001$), followed by the creation and definition stage ($r = 0.32$, $p < 0.001$), and the development and management stage ($r = 0.28$, $p < 0.001$). This pattern suggests that framing may be particularly crucial during the critical phase of innovation adoption.

4.4 Meta-Analytic Structural Equation Modeling Results

this MASEM analysis provided strong support for this theoretical model. The final model demonstrated good fit with the data (CFI = 0.94, RMSEA = 0.056, SRMR = 0.038). The analysis revealed significant direct paths from innovation framing to all three performance outcomes, with standardized coefficients ranging from 0.24 to 0.41 (all $p < 0.001$).

4.5 Publication Bias Assessment

The funnel plot analysis and Egger's test ($z = 1.84$, $p = 0.065$) suggested minimal publication bias in this sample. The fail-safe N calculation indicated that 4,731 null studies would be needed to reduce the overall effect to non-significance, suggesting robust findings. The trim-and-fill analysis suggested only minor adjustments to effect size estimates, further supporting the stability of this results.

5. DISCUSSION

The meta-analysis provides significant insights into the relationship between innovation framing and firm performance, offering both theoretical contributions and practical implications. The findings reveal nuanced patterns in how different framing mechanisms influence organizational outcomes, while also highlighting the crucial role of contextual factors in shaping these relationships.

5.1 Theoretical Implications

The strong positive relationship between innovation framing and firm performance (r = 0.31) advances theoretical understanding in several important ways. First, it provides empirical validation of upper echelons theory's proposition that strategic communication and framing significantly influence organizational outcomes. This finding extends beyond simple correlation, as the structural equation modeling demonstrates clear causal pathways through which framing affects various performance dimensions.

The results regarding frame types offer particularly novel insights. The finding that meso-level frames show the strongest relationship with performance (r = 0.35) suggests that group-level interpretive processes play a more crucial role than previously recognized. This challenges the traditional emphasis on either individual cognitive frames or institutional-level frameworks, pointing to the importance of intermediate-level social processes in innovation implementation. As noted in [11], these meso-level processes may serve as crucial bridges between individual understanding and broader organizational change.

The varying effectiveness of framing across innovation stages provides important theoretical refinements to this understanding of innovation processes. The stronger relationship during the adoption and implementation stage (r = 0.37) suggests that framing may be particularly crucial during periods of organizational transition.

5.2 Practical Implications

this findings offer several actionable insights for practitioners. The strong moderating effect of environmental dynamism suggests that organizations operating in turbulent environments should invest particularly heavily in developing their framing capabilities. Leaders in such contexts might benefit from focusing on flexible framing approaches that can adapt to rapidly changing circumstances.

The differential effectiveness of frame types also has practical implications for innovation management. The superior performance of meso-level frames suggests that organizations should pay particular attention to group-level communication and sensemaking processes. This might involve developing specific protocols for team-level innovation discussions or creating structured processes for translating individual insights into group-level understanding.

5.3 Limitations and Future Research Directions

While this meta-analysis provides robust evidence for the importance of innovation framing, several limitations suggest directions for future research. First, the significant heterogeneity in effect sizes indicates that there may be additional moderating factors not captured in this analysis. Future studies might explore other contextual variables, such as organizational culture or leadership styles, that could influence framing effectiveness.

The stronger relationship between framing and financial performance compared to transformation outcomes suggests a need for more research into how framing influences different types of organizational change. Longitudinal studies might be particularly valuable in understanding how framing processes evolve over time and how they contribute to sustained organizational transformation.

The findings offer several actionable insights for practitioners. The strong moderating effect of environmental dynamism suggests that organizations operating in turbulent environments should invest particularly heavily in developing their framing capabilities. Leaders in such contexts might benefit from focusing on flexible framing approaches that can adapt to rapidly changing circumstances.

5.4 Integration with Existing Literature

The findings both support and extend previous research on innovation framing. The significant moderating effect of organizational size aligns with Crossland and Hambrick's [9] work on managerial discretion, while the findings regarding environmental dynamism complement Chen et al.'s [14] research on contextual influences on innovation implementation.

6. CONCLUSION

The findings make several important contributions to both theory and practice in innovation management. First, they establish that the effectiveness of innovation framing is not uniform but rather depends heavily on organizational context and environmental conditions. This insight helps resolve previous contradictions in the literature regarding the value of different framing approaches. Second, the results highlight the particular importance of meso-level framing processes, suggesting that group-level interpretive mechanisms serve as crucial bridges between individual understanding and organizational implementation.

Of particular significance is this finding that the relationship between framing and performance is strongest during the adoption and implementation stage of innovation initiatives. This temporal pattern suggests that organizations might benefit most from concentrating their framing efforts during critical transition periods. Furthermore, the stronger effects observed in dynamic environments indicate that framing capabilities become increasingly valuable as market uncertainty increases.

As organizations continue to navigate increasingly complex innovation landscapes, the ability to effectively frame and communicate innovation initiatives becomes ever more critical. this findings provide a foundation for understanding how different framing approaches contribute to organizational success, while also identifying important boundary conditions and contingencies that shape these relationships. Future research can build on these insights to further explore the dynamic interplay between framing mechanisms and organizational outcomes in various contexts.

Reference

[1] G. G. Dess, R. D. Ireland, S. A. Zahra, S. W. Floyd, J. J. Janney, and P. J. Lane, "Emerging issues in corporate entrepreneurship," Journal of Management, vol. 29, no. 3, pp. 351-378, 2003.

[2] D. F. Kuratko, J. S. Hornsby, and J. Hayton, "Corporate entrepreneurship: The innovative challenge for a new global economic reality," Small Business Economics, vol. 45, no. 2, pp. 245-253, 2015.

[3] R. D. Benford and D. A. Snow, "Framing processes and social movements: An overview and assessment," Annual Review of Sociology, vol. 26, no. 1, pp. 611-639, 2000.

[4] S. Kaplan, "Framing contests: Strategy making under uncertainty," Organization Science, vol. 19, no. 5, pp. 729-752, 2008.

[5] R. D. Ireland, J. G. Covin, and D. F. Kuratko, "Conceptualizing corporate entrepreneurship strategy," Entrepreneurship Theory and Practice, vol. 33, no. 1, pp. 19-46, 2009.

[6] P. H. Phan, M. Wright, D. Ucbasaran, and W. L. Tan, "Corporate entrepreneurship: Current research and future directions," Journal of Business Venturing, vol. 24, no. 3, pp. 197-205, 2009.

[7] D. C. Hambrick and P. A. Mason, "Upper echelons: The organization as a reflection of its top managers," Academy of Management Review, vol. 9, no. 2, pp. 193-206, 1984.

[8] C. Crossland and D. C. Hambrick, "How national systems differ in their constraints on corporate executives: A study of CEO effects in three countries," Strategic Management Journal, vol. 28, no. 8, pp. 767-789, 2007.

[9] C. Crossland and D. C. Hambrick, "Differences in managerial discretion across countries: How nation-level institutions affect the degree to which CEOs matter," Strategic Management Journal, vol. 32, no. 8, pp. 797-819, 2011.

[10] C. Heavey and Z. Simsek, "Top management compositional effects on corporate entrepreneurship: The moderating role of perceived technological uncertainty," Journal of Product Innovation Management, vol. 30, no. 5, pp. 837-855, 2013.

[11] Y. Ling, Z. Simsek, M. H. Lubatkin, and J. F. Veiga, "Transformational leadership's role in promoting corporate entrepreneurship: Examining the CEO-TMT interface," Academy of Management Journal, vol. 51, no. 3, pp. 557-576, 2008.

[12] J. P. Cornelissen and M. D. Werner, "Putting framing in perspective: A review of framing and frame analysis across the management and organizational literature," Academy of Management Annals, vol. 8, no. 1, pp. 181-235, 2014.

[13] J. Chen, Z. Simsek, Y. Liao, and H. K. Kwan, "CEO self-monitoring and corporate entrepreneurship: A moderated mediation model of the CEO-TMT interface," Journal of Management, vol. 48, no. 8, pp. 2197-2222, 2021.

[14] S. A. Zahra, I. Filatotchev, and M. Wright, "How do threshold firms sustain corporate entrepreneurship? The role of boards and absorptive capacity," Journal of Business Venturing, vol. 24, no. 3, pp. 248-260, 2009.

[15] J. E. Hunter and F. L. Schmidt, Methods of meta-analysis: Correcting error and bias in research findings, 3rd ed. Sage Publications, 2011.

[16] Benford, Robert D., and David A. Snow. 2000. "Framing Processes and Social Movements: An Overview and Assessment." Annual Review of Sociology 26(1): 611–639.

[17] Cornelissen, Joep P., and Mirjam D. Werner. 2014. "Putting Framing in Perspective: A Review of Framing and Frame Analysis across the Management and Organizational Literature." Academy of Management Annals 8(1): 181–235.

[18] Crossland, C., & Hambrick, D. C. 2007. "How National Systems Differ in Their Constraints on Corporate Executives: A Study of CEO Effects in Three Countries." Strategic Management Journal 28(8): 767–789.

[19] Crossland, C., & Hambrick, D. C. 2011. "Differences in Managerial Discretion across Countries: How Nation-Level Institutions Affect the Degree to Which CEOs Matter." Strategic Management Journal 32(8): 797–819.

[20] Dess, G. G., Ireland, R. D., Zahra, S. A., Floyd, S. W., Janney, J. J., & Lane, P. J. 2003. "Emerging Issues in Corporate Entrepreneurship." Journal of Management 29(3): 351–378.

[21] Hambrick, D. C., & Mason, P. A. 1984. "Upper Echelons: The Organization as a Reflection of Its Top Managers." Academy of Management Review 9(2): 193–206.

[22] Heavey, C., & Simsek, Z. 2013. "Top Management Compositional Effects on Corporate Entrepreneurship: The Moderating Role of Perceived Technological Uncertainty." Journal of Product Innovation Management 30(5): 837–855.

[23] Kaplan, Sarah. 2008. "Framing Contests: Strategy Making under Uncertainty." Organization Science 19(5): 729–752.

[24] Kuratko, D. F., Hornsby, J. S., & Hayton, J. 2015. "Corporate Entrepreneurship: The Innovative Challenge for a New Global Economic Reality." Small Business Economics 45(2): 245–253.

[25] Ling, Y., Simsek, Z., Lubatkin, M. H., & Veiga, J. F. 2008. "Transformational Leadership's Role in Promoting Corporate Entrepreneurship: Examining the CEO-TMT Interface." Academy of Management Journal 51(3): 557–576.

[26] Phan, P. H., Wright, M., Ucbasaran, D., & Tan, W. L. 2009. "Corporate Entrepreneurship: Current Research and Future Directions." Journal of Business Venturing 24(3): 197–205.

[27] Zahra, S. A., Filatotchev, I., & Wright, M. 2009. "How Do Threshold Firms Sustain Corporate Entrepreneurship? The Role of Boards and Absorptive Capacity." Journal of Business Venturing 24(3): 248–260.

[28] Anthony, Callen, Andrew J. Nelson, and Mary Tripsas. 2016. ""Who Are you?… I Really Wanna Know": Product Meaning and Competitive Positioning in the Nascent Synthesizer Industry." Strategy Science 1(3): 163–183.

[29] Azad, Bijan, and Samer Faraj. 2011. "Social Power and Information Technology Implementation: A Contentious Framing Lens." Information Systems Journal 21(1): 33–61.

[30] Battilana, Julie, Bernard Leca, and Eva Boxenbaum. 2009. "2 How Actors Change Institutions: Towards a Theory of Institutional Entrepreneurship." The Academy of Management Annals 3(1): 65–107.

[31] Boxenbaum, Eva, and Julie Battilana. 2005. "Importation as Innovation: Transposing Managerial Practices across Fields." Strategic Organization 3(4): 355–383.

[32] Bryant, Christopher, and Courtney Dillard. 2019. "The Impact of Framing on Acceptance of Cultured Meat." Frontiers in Nutrition 6: 103.

[33] Davidson, Elizabeth. 2006. "A Technological Frames Perspective on Information Technology and Organizational Change." The Journal of Applied Behavioral Science 42(1): 23–39.

[34] Edmondson, Amy C. 2003. "Framing for Learning: Lessons in Successful Technology Implementation." California Management Review 45(2): 34–54.

[35] Entman, Robert M. 1993. "Framing: Toward Clarification of a Fractured Paradigm." Journal of Communication 43(4): 51–58.

[36] Anthony, Callen, Andrew J. Nelson, and Mary Tripsas. 2016. ""Who Are you?… I Really Wanna Know": Product Meaning and Competitive Positioning in the Nascent Synthesizer Industry." Strategy Science 1(3): 163–183.

[37] Azad, Bijan, and Samer Faraj. 2011. "Social Power and Information Technology Implementation: A Contentious Framing Lens." Information Systems Journal 21(1): 33–61.

[38] Battilana, Julie, Bernard Leca, and Eva Boxenbaum. 2009. "2 How Actors Change Institutions: Towards a Theory of Institutional Entrepreneurship." The Academy of Management Annals 3(1): 65–107.

[39] Boxenbaum, Eva, and Julie Battilana. 2005. "Importation as Innovation: Transposing Managerial Practices across Fields." Strategic Organization 3(4): 355–383.

[40] Bryant, Christopher, and Courtney Dillard. 2019. "The Impact of Framing on Acceptance of Cultured Meat." Frontiers in Nutrition 6: 103.

[41] Davidson, Elizabeth. 2006. "A Technological Frames Perspective on Information Technology and Organizational Change." The Journal of Applied Behavioral Science 42(1): 23–39.

[42] Edmondson, Amy C. 2003. "Framing for Learning: Lessons in Successful Technology Implementation." California Management Review 45(2): 34–54.

[43] Entman, Robert M. 1993. "Framing: Toward Clarification of a Fractured Paradigm." Journal of Communication 43(4): 51–58.

[44] Fiss, Peer C., and Edward J. Zajac. 2006. "The Symbolic Management of Strategic Change: Sensegiving Via Framing and Decoupling." Academy of Management Journal 49(6): 1173–93.

[45] Garud, Raghu, Henri A. Schildt, and Theresa K. Lant. 2014. "Entrepreneurial Storytelling, Future Expectations, and the Paradox of Legitimacy." Organization Science 25(5): 1479–92.

[46] Geels, Frank W., and Bram Verhees. 2011. "Cultural Legitimacy and Framing Struggles in Innovation Journeys: A Cultural-Performative Perspective and a Case Study of Dutch Nuclear Energy (1945–1986)." Technological Forecasting and Social Change 78(6): 910–930.

[47] Goffman, Erving. 1974. Frame Analysis: An Essay on the Organization of Experience. Cambridge, MA: Harvard University Press.

[48] Gray, Barbara, Jill M. Purdy, and Shahzad Ansari. 2015. "From Interactions to Institutions: Microprocesses of Framing and Mechanisms for the Structuring of Institutional Fields." Academy of Management Review 40(1): 115–143.

[49] Kaplan, Sarah, and Mary Tripsas. 2008. "Thinking about Technology: Applying a Cognitive Lens to Technical Change." Research Policy 37(5): 790–805.

[50] Kennedy, Mark Thomas, and Peer Christian Fiss. 2009. "Institutionalization, Framing, and Diffusion: The Logic of TQM Adoption and Implementation Decisions among US Hospitals." Academy of Management Journal 52(5): 897–918.

[51] Kivimaa, Paula, and Per Mickwitz. 2011. "Public Policy as a Part of Transforming Energy Systems: Framing Bioenergy in Finnish Energy

Policy." Journal of Cleaner Production 19(16): 1812–21.

[52] Lounsbury, Michael, and Marc J. Ventresca. 2003. "The New Structuralism in Organizational Theory." Organization 10(3): 457–480.

[53] Maguire, Steve, Cynthia Hardy, and Thomas B. Lawrence. 2004. "Institutional Entrepreneurship in Emerging Fields: HIV/AIDS Treatment Advocacy in Canada." Academy of Management Journal 47(5): 657–679.

[54] Meyer, John W., and Brian Rowan. 1977. "Institutionalized Organizations: Formal Structure as Myth and Ceremony." American Journal of Sociology 83(2): 340–363.

[55] Orlikowski, Wanda J., and Susan V. Scott. 2008. "Sociomateriality: Challenging the Separation of Technology, Work and Organization." Academy of Management Annals 2(1): 433–474.

[56] Fiss, Peer C., and Edward J. Zajac. 2006. "The Symbolic Management of Strategic Change: Sensegiving Via Framing and Decoupling." Academy of Management Journal 49(6): 1173–93.

[57] Garud, Raghu, Henri A. Schildt, and Theresa K. Lant. 2014. "Entrepreneurial Storytelling, Future Expectations, and the Paradox of Legitimacy." Organization Science 25(5): 1479–92.

[58] Geels, Frank W., and Bram Verhees. 2011. "Cultural Legitimacy and Framing Struggles in Innovation Journeys: A Cultural-Performative Perspective and a Case Study of Dutch Nuclear Energy (1945–1986)." Technological Forecasting and Social Change 78(6): 910–930.

[59] Goffman, Erving. 1974. Frame Analysis: An Essay on the Organization of Experience. Cambridge, MA: Harvard University Press.

[60] Gray, Barbara, Jill M. Purdy, and Shahzad Ansari. 2015. "From Interactions to Institutions: Microprocesses of Framing and Mechanisms for the Structuring of Institutional Fields." Academy of Management Review 40(1): 115–143.

[61] Kaplan, Sarah, and Mary Tripsas. 2008. "Thinking about Technology: Applying a Cognitive Lens to Technical Change." Research Policy 37(5): 790–805.

[62] Kennedy, Mark Thomas, and Peer Christian Fiss. 2009. "Institutionalization, Framing, and Diffusion: The Logic of TQM Adoption and Implementation Decisions among US Hospitals." Academy of Management Journal 52(5): 897–918.

[63] Kivimaa, Paula, and Per Mickwitz. 2011. "Public Policy as a Part of Transforming Energy Systems: Framing Bioenergy in Finnish Energy Policy." Journal of Cleaner Production 19(16): 1812–21.

[64] Lounsbury, Michael, and Marc J. Ventresca. 2003. "The New Structuralism in Organizational Theory." Organization 10(3): 457–480.

[65] Maguire, Steve, Cynthia Hardy, and Thomas B. Lawrence. 2004. "Institutional Entrepreneurship in Emerging Fields: HIV/AIDS Treatment Advocacy in Canada." Academy of Management Journal 47(5): 657–679.