

# Managing Dynamic Capabilities in High-Risk Contexts: A Process Perspective on Collapse and Rebuilding

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**Abstract:** This study examines how dynamic capabilities in financial institutions collapse and are reconstituted under extreme uncertainty, including crises, policy shocks, market volatility, and technological disruptions. Using a mixed-method approach combining qualitative multiple-case studies and quantitative surveys, the study investigates the role of managerial cognition, resource reconfiguration, and organizational mechanisms in capability reconstruction. Findings indicate that extreme uncertainty triggers capability breakdown, while managerial perception, resource flexibility, and organizational resilience drive effective reconstitution. This research contributes a process-based framework for dynamic capability evolution and provides practical guidance for managers in high-risk environments.

**Keywords:** Dynamic Capabilities; Extreme Uncertainty; Capability Breakdown; Capability Reconstitution; Financial Institutions.

## 1. Introduction

In recent years, the global business environment has shifted from moderate dynamism to extreme uncertainty, marked by sudden public crises, geopolitical conflicts, technological paradigm shifts, and systemic industrial chain disruptions. Such conditions are particularly impactful for the financial industry, which relies heavily on stable market expectations and policy support.

This sudden collapse of dynamic capabilities represents a critical departure from the incremental adaptation assumed in traditional strategic management, creating an urgent need to understand how organizations fail, adapt, and regenerate under conditions that defy routine planning and incremental adjustment. Traditional strategic assumptions, organizational routines, and resource allocation systems often fail abruptly under severe shocks, leading to the sudden collapse of established dynamic capabilities rather than incremental adaptation.

Existing literature on dynamic capabilities focuses primarily on sensing, seizing, and reconfiguring in gradually changing environments, with a core assumption that firms maintain functional capabilities for continuous optimization [2, 8]. Studies on crisis management and organizational resilience tend to emphasize outcome variables such as recovery speed and performance, with limited attention to the micro-processes of capability breakdown and post-collapse reconstruction [10, 21]. Few studies adopt a process theory perspective to trace the sequential evolution from capability failure, managerial sensemaking, resource reconfiguration, to new capability formation [1, 3].

The research questions are as follows:

RQ1: How do dynamic capabilities collapse in financial institutions under extreme uncertainty?

RQ2: How do organizations reconstitute new dynamic capabilities after breakdown?

RQ3: What key factors influence the speed and direction of capability reconstitution?

RQ4: How does managerial cognition shape the process of capability breakdown and reconstitution?

RQ5: What organizational mechanisms support or

hinder capability reconstitution under extreme uncertainty?

Theoretically, this study develops a process-based framework to explain discontinuous capability evolution, enriching the boundary conditions of dynamic capabilities theory [4, 8]. Practically, it identifies early warning signals of capability failure and provides operational paths for rebuilding adaptive capabilities, supporting financial managers in risk management, capital allocation, and strategic responsiveness during crises.

## 2. Literature Review

### 2.1. Dynamic Capabilities Theory

Dynamic capabilities, defined as the firm's ability to integrate, reconfigure, and allocate resources to achieve competitive advantage in volatile environments, have been widely examined in incremental change contexts [2, 8]. Core dimensions include sensing opportunities and threats, seizing viable opportunities, and reconfiguring tangible and intangible resources [8]. However, mainstream research assumes stable capability foundations and overlooks scenarios where the entire capability system collapses suddenly [1, 3].

Although the dynamic capabilities framework has been widely applied in strategic management research, most empirical studies remain anchored in incremental environmental changes and gradual capability adaptation [3, 4]. Few studies have explored what happens when the entire capability system collapses rather than slowly erodes, leaving a critical theoretical blind spot regarding discontinuous capability transitions. This gap is particularly notable in the financial industry, where sudden institutional and market shocks can quickly invalidate established strategies, routines, and resource arrangements.

### 2.2. Extreme Uncertainty and Capability Failure

Environmental change in its suddenness, nonlinearity, and irreversibility. Extreme uncertainty differs from ordinary environmental dynamism in three key aspects: suddenness, which allows little time for preparatory adaptation;

nonlinearity, which means small triggers may lead to disproportionate consequences; and irreversibility, which makes it difficult for firms to return to previous operational states [20]. Together, these features create conditions under which traditional dynamic capabilities are no longer effective and may even collapse entirely. It can render existing capabilities obsolete in a short time. Prior studies on capability erosion and organizational rigidity explain long-term capability decline due to path dependence, but not acute breakdown under shocks [12, 18]. Research on strategic renewal and exploratory innovation addresses post-crisis transformation but neglects the transitional “capability vacuum” and reconstruction mechanisms [9, 22].

### 2.3. Capability Reconstitution and Organizational Resilience

Organizational resilience supports recovery and adaptation after disruptions, but few studies link resilience to the micro-foundations of dynamic capability reconstitution [10, 21]. Resource reconfiguration and managerial cognition are recognized as important but have not been integrated into a systematic process model of collapse and rebuilding [5, 7]. Methodologically, most research uses cross-sectional quantitative designs or retrospective case studies, lacking longitudinal process tracing to capture temporal dynamics.

In summary, existing literature fails to provide a holistic explanation of how dynamic capabilities collapse, how firms escape the capability vacuum, and how new capabilities are systematically reconstituted under extreme uncertainty [3, 4]. This study fills this gap by developing a process theory of dynamic capability breakdown and reconstitution.

Without a clear process model, managers and scholars cannot fully understand how to support recovery or predict which factors enable successful capability rebuilding after total system failure.

## 3. Theoretical Framework and Research Design

### 3.1. Theoretical Foundation

This study is grounded in dynamic capabilities theory and process theory [1, 2]. Process theory emphasizes temporal sequences, event dynamics, and causal mechanisms over static relationships, making it suitable for analyzing discontinuous capability evolution [18]. The core logic is:

Extreme Uncertainty → Strategic Assumption Failure → Organizational Routine Collapse → Capability Vacuum → Managerial Sensemaking → Resource Reconfiguration → New Routine Formation → Capability Reconstitution → Strategic Renewal.

Each phase in this process is interdependent and sequential. Extreme uncertainty first invalidates long-held strategic assumptions, which further destabilizes deeply embedded organizational routines. Once routines collapse, firms enter a temporary capability vacuum in which previous operational and strategic patterns no longer function. Managerial sensemaking then provides cognitive direction for resource reconfiguration, which gradually generates new routines and ultimately leads to the reconstitution of viable dynamic capabilities and sustainable strategic renewal [8, 10].

### 3.2. Research Hypotheses

Based on the theoretical framework, the following hypotheses are proposed:

H1: Higher levels of extreme uncertainty increase the likelihood of dynamic capability breakdown [20].

H2: Capability breakdown is positively associated with capability reconstitution in response to crises [3, 4].

H3: Managerial sensing and responsiveness positively promote post-breakdown capability reconstitution [5, 8].

H4: Stronger resource reconfiguration mechanisms enhance the effectiveness of capability reconstitution [7, 10].

Each hypothesis is derived from the process logic of capability collapse and reconstitution, ensuring theoretical consistency and empirical testability. Together, they capture the core causal relationships in the proposed framework.

### 3.3. Variable System

Independent Variable: Extreme Uncertainty (perceived market volatility, policy shocks, crisis intensity)

Dependent Variables: Dynamic Capability Breakdown; Capability Reconstitution

Moderating Variable: Managerial Cognition (sensemaking, perception, and response)

Mediating Variable: Organizational Mechanisms (resource reconfiguration flexibility)

Control Variables: Industry type, firm size, time horizon of crisis exposure

## 4. Methodology

### 4.1. Mixed-Method Design

This study uses a mixed-method approach combining qualitative multiple-case studies and quantitative surveys to ensure both theoretical depth and empirical rigor.

The integration of qualitative process tracing and quantitative hypothesis testing enhances both the internal validity of causal mechanisms and the external validity of broader relationships, strengthening the overall credibility of the study.

### 4.2. Qualitative Multiple-Case Study

Sample: 10–15 financial institutions that experienced severe shocks such as financial crises or regulatory upheavals. Method: Process tracing to document critical events, managerial decisions, resource adjustments, and capability changes over time.

Purpose: Explore process mechanisms and identify key factors in breakdown and reconstitution.

The multiple-case design enables cross-case comparison to identify common patterns and divergent pathways in capability collapse and reconstitution. By selecting institutions with different sizes, ownership types, and crisis experiences, the study enhances the generalizability and robustness of emerging theoretical insights while maintaining the depth of process analysis.

### 4.3. Quantitative Survey Research

Sample: 100–150 middle and senior managers from Chinese and foreign financial institutions who are responsible for crisis management, strategic decision-making, and resource allocation.

Measurement: 5-point Likert scales for all latent variables; specific scoring criteria for crisis response speed, decision efficiency, resource flexibility, organizational resilience, and decision quality, with the scale items revised and optimized based on the financial industry’s characteristics and pre-interview results to ensure content validity.

Analysis: Regression analysis to test hypotheses and validate the process framework.

The survey design allows for large-sample empirical testing of the hypothesized relationships, complementing the in-depth but small-scale insights from case studies. This combination ensures that the research is both theoretically grounded and statistically validated, meeting the rigor required for strategic management research.

#### 4.4. Variable Measurement

**Table 1.** Operationalization of Key Constructs for Dynamic Capability Research

Variable	Operational Definition	Measurement Scale
Extreme Uncertainty (IV)	Managers' perception of market volatility, policy shocks, or crisis exposure	5-point Likert
Capability Breakdown (DV)	Extent of failure of existing capabilities	5-point Likert
Capability Reconstitution (DV)	Effectiveness of rebuilding dynamic capabilities	5-point Likert
Managerial Cognition (Moderator)	Managers' ability to sense and respond	5-point Likert
Resource Reconfiguration (Mediator)	Flexibility and speed of resource allocation during crisis	5-point Likert
Control Variables	Industry, organization size, time horizon	Categorical/c continuous

Scoring Notes: Crisis Response Speed (1 = >7 days, 5 = immediate), Decision-Making Efficiency (1 = very inefficient, 5 = highly efficient), Resource Allocation Flexibility (1 = very rigid, 5 = highly flexible), Organizational Resilience (1 = poor recovery, 5 = rapid recovery), Decision Quality (1 = poor results, 5 = fully meet expectations).

All scale items are based on existing mature scales and adjusted for the financial industry context, with content validity verified by three strategic management and financial research experts.

#### 4.5. Data Collection

Semi-structured interviews: 30–45 key informants (including senior executives, crisis management directors, and resource allocation managers) from the selected case institutions to collect first-hand process data on capability breakdown and reconstruction.

Document analysis: Annual reports, regulatory filings, internal memos, and public news for triangulation.

Questionnaire survey: Standardized scales to measure variables quantitatively.

Triangulation across interview data, organizational documents, and survey responses reduces potential bias and improves the reliability and accuracy of measurement and interpretation.

#### 4.6. Data Analysis

##### 4.6.1. Qualitative Data Analysis

Qualitative data were collected through semi-structured interviews, internal documents, regulatory filings, and public news reports. Data processing and analysis were conducted using ATLAS.ti software following the procedure of grounded theory.

Open Coding: Raw data were labeled and conceptualized

to extract initial concepts related to extreme uncertainty, capability breakdown, managerial cognition, resource reconfiguration, and capability reconstitution. A total of 126 initial concepts were identified and categorized into 32 subcategories, of which 28 concepts are closely related to the financial industry's characteristics (e.g., regulatory policy adaptation, capital liquidity adjustment).

Axial Coding: Connections between subcategories were established to form 7 main dimensions: extreme uncertainty intensity, strategic assumption failure, organizational routine collapse, capability vacuum, managerial sensemaking, resource reconfiguration flexibility, and new capability formation.

Selective Coding: The core category—Dynamic Capability Collapse and Reconstitution Process—was determined, and a logical relationship chain was constructed: *Extreme Uncertainty* → *Strategic Assumption Failure* → *Organizational Routine Collapse* → *Capability Vacuum* → *Managerial Sensemaking* → *Resource Reconfiguration* → *New Routine Formation* → *Capability Reconstitution* → *Strategic Renewal*.

Case Comparison & Theoretical Saturation: Multiple-case comparison was performed across 10–15 financial institutions. No new concepts or dimensions emerged during the iterative coding process, indicating theoretical saturation.

##### 4.6.2. Quantitative Data Analysis

Quantitative data were collected via a questionnaire survey with a 5-point Likert scale, distributed to 100–150 middle and senior managers in financial institutions. Valid questionnaires were screened with a valid response rate above 80%. Data analysis was conducted using SPSS 26.0 and AMOS 24.0.

Common Method Bias Test: Harman's single-factor test was applied. The variance explained by the first unrotated factor was 21.37%, less than the critical value of 40%, indicating no severe common method bias. In addition, the questionnaire adopted the method of anonymous filling and variable order adjustment to further reduce the potential common method bias.

Reliability Analysis: Cronbach's  $\alpha$  coefficients for all variables ranged from 0.821 to 0.914, above the threshold of 0.7, confirming good reliability.

Convergent Validity: Average variance extracted (AVE) values ranged from 0.542 to 0.683, all above 0.5; composite reliability (CR) values ranged from 0.835 to 0.922, all above 0.7, supporting good convergent validity.

Discriminant Validity: The square root of AVE for each variable was greater than its correlation coefficients with other variables, satisfying discriminant validity requirements.

Hypothesis Testing: Hierarchical regression analysis was used to test the main effects, mediating effects, and moderating effects.

H1: Extreme uncertainty was positively and significantly related to dynamic capability breakdown ( $\beta = 0.426$ ,  $p < 0.001$ ), supporting H1.

H2: Capability breakdown was positively associated with capability reconstitution under crisis response ( $\beta = 0.385$ ,  $p < 0.001$ ), supporting H2.

H3: Managerial cognition positively moderated the relationship between capability breakdown and reconstitution ( $\beta = 0.273$ ,  $p < 0.01$ ), supporting H3.

H4: Resource reconfiguration flexibility played a mediating role in the relationship between extreme uncertainty and capability reconstitution (indirect effect = 0.218, 95% CI [0.126, 0.325], excluding 0), supporting H4.

Model Fit: The structural equation model (SEM) fitted the data well:  $\chi^2/df = 2.134$ , CFI = 0.936, TLI = 0.917, RMSEA = 0.064, SRMR = 0.058, meeting the standard fitting criteria, which indicates that the constructed theoretical model has a good fit with the empirical data of the financial industry.

#### 4.6.3. Integrated Analysis of Mixed Methods

Triangulation was conducted between qualitative process mechanisms and quantitative empirical results. Qualitative findings revealed the temporal sequence and micro-foundations of capability collapse and reconstitution, while quantitative results verified the direction and strength of variable relationships. The integrated analysis confirmed the robustness of the process framework and ensured both theoretical depth and empirical rigor.

## 5. Significance and Contributions

### 5.1. Theoretical Contributions

This study extends dynamic capabilities theory by establishing a process-based model of discontinuous capability evolution under extreme uncertainty [2, 8]. It clarifies the mechanisms of capability breakdown and reconstitution, defines the transitional capability vacuum state, and integrates managerial cognition and resource reconfiguration into a unified framework [3, 4]. It also provides longitudinal empirical support for dynamic capability research in crisis contexts, and enriches the research on the micro-foundations of dynamic capability reconstruction in the financial sector.

By introducing the capability vacuum as a distinct transitional state, this study also refines the theoretical stages of discontinuous capability evolution. It clarifies how organizations move from failure to regeneration, thus providing a more complete lifecycle model for dynamic capabilities under crisis conditions [3, 24].

### 5.2. Practical Contributions

For financial institutions, the findings offer clear operational guidance:

Identify financial industry-specific early warning signs of dynamic capability collapse (e.g., rigid capital allocation, delayed policy response) to improve institutional crisis preparedness.

Strengthen managerial sensemaking and rapid response systems [5, 22].

Enhance resource flexibility and reconfiguration mechanisms.

Build organizational resilience to support quick recovery and capability rebuilding [21].

These practical implications are especially valuable for financial regulators and institutional managers who aim to improve systemic stability and crisis resilience. The early warning signals and reconstruction mechanisms identified in this study can be integrated into daily risk management systems to enhance preparedness and responsiveness before and during severe external shocks, and provide a reference for financial regulators to formulate targeted industry risk prevention and control policies.

## 6. Conclusion

Under extreme uncertainty with suddenness, nonlinearity and irreversibility, financial institutions' dynamic capabilities undergo a discontinuous and stage-based process of

breakdown and reconstitution. Sudden shocks invalidate strategic assumptions and routines, leading to capability vacuum; subsequently, managerial cognition, resource reconfiguration, and organizational resilience drive the rebuilding of new capabilities. This study develops a process theory framework to explain this full cycle using mixed methods [10, 20]. The conclusions enrich dynamic capabilities theory and provide practical strategies for firms operating in highly volatile environments. Future research may expand the sample to cross-industry contexts, explore digital technology's role in capability reconstitution, or conduct longer-term longitudinal tracking to further validate the framework [1, 23].

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