

Supply Chain Resilience as a Strategic Capability in Film Production: A Risk Management Perspective

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Abstract. *The research explores how supply chain resilience functions as an essential strategic capability within the film production industry, which mainly operates through project-based work methods that very often experience unpredictable conditions and require specialized assets and deliver results within restricted timeframes. The existing research on supply chain resilience mainly studies manufacturing and logistics environments, which restricts understanding about temporary creative organizations and their organizational structures. This work fills this gap by using a conceptual research design to combine existing theoretical frameworks through dynamic capabilities and strategic risk management literature. This paper develops a strategic risk typology based on strategic impact and managerial controllability, and proposes a Film Resilience Strategic Framework that connects strategic objectives, risk exposure, managerial choices, and resilience process to performance outcomes. The analysis shows that producers function as strategic planners who use resilience to protect their organization and project but also use it to create new opportunities which help them to maintain good performance during times of uncertainty. The research study strengthens strategic management literature by expanding supply chain resilience applications into project-based creative industries while providing a framework that connects theoretical foundations to practical business needs. This study presents executive decision-making implications together with production management implications and future empirical research implications.*

Keywords: Supply chain resilience, dynamic capabilities, strategic risk management, film production, project-based organizations.

Introduction

The modern business world now operates with continuous interruptions as its main characteristic. Geopolitical conflicts, technological advancements, new regulations, pandemics, and climate change events now create operational disruptions which affect global supply chains. The system now faces disturbance which are extending beyond typical operational disruptions because they endanger essential business objectives, market standing, and ability to generate value over time. Supply chain failures nowadays serve as central elements in business which institutions use to make strategic choices about their operations.

The discussion about strategic management today requires businesses to change their methods according to their need to handle uncertain situations. Firms need to achieve two objectives through their operational activities which require them to handle both cost management and their need to adapt and maintain operational flexibility. Supply chain resilience has progressed from being a protective measure against disruptions to becoming a strategic asset which helps businesses prepare for, and manage unexpected events.

The COVID-19 pandemic exposed this truth because international supply chains showed their hidden weaknesses. Researchers have studied manufacturing and retail supply chains extensively while they have not yet examined strategic supply chain resilience for creative industries, especially in film production. The industry needs this information because it operates at a large economic size, and creates cultural effects, and has unique operational challenges.

Film production acts as an extreme study case which demonstrates how firms achieve supply chain resilience through their strategic operations. Film production shows different operational patterns because its activities run through brief project cycles which require special equipment, and create permanent expenses. The production process requires different types of personnel (crew) to work with various suppliers, production sites, technological systems, and financing methods which may extend across multiple countries, and different legal systems. Film production operates under Richard E. Caves (2000, p.6) definition of “infinite variety” because it must create unique projects which satisfy fixed deadlines and financial restrictions.

The 2022 production shutdown of “Mission: Impossible 7” due to COVID-19 bursts resulted in estimated costs exceeding \$50 million. The 2017 production of “All the Money in the World” requires Kevin Spacey replacement through reshoots which required nine days to complete at a cost of ten million dollars. These challenges represent major obstacles which test an institution’s ability to keep functioning during a fundamental crisis.

The combination of these elements produces a situation which creates “perfect storm” conditions for strategic uncertainty. The production network suffers from production delays because critical resources which include lead actors, and intellectual property, and exclusive locations cannot be replaced. Film production provides an effective testing ground which researchers use to study how firms establish and implement strategic resilience during times of extreme operational disruptions.

Strategic management and supply chain resilience research fields currently lack sufficient investigation of film production despite its importance as a research subject. Existing studies on resilience predominantly concentrate their efforts on manufacturing, logistics, and infrastructure heavy sectors while creative, and project-based fields remain insufficiently developed. This article aims to create a solution for this research gap through the combination of strategic management theory and actual film production operations.

The main proposition put forward here is that resilience in film production supply chains should not be viewed merely as an overhead expense or an emergency measure but rather as a capability that allows for strategic flexibility and continued effectiveness. The article develops a strategic risk typology, and introduces a conceptual framework for film production which advances both theoretical knowledge, and practical application.

In this case, the content of the article is arranged in an organized manner by having Section Two that introduces the theoretical background for the paper using the concept of dynamic capabilities, and supply chain resilience strategy literature. Third section of the article analyzes film production using the concept of strategic systems with projects. Fourth section offers a typology for strategic risk that measures risks according to their two key aspects that include their impact and controllability. The Film Resilience Strategic Framework is introduced in the fifth section of this paper. The sixth section of the study discusses the implications of this research for both management and education sectors. The seventh section finally presents its main findings together with its research restrictions and suggested areas for future investigation.

Literature review

Theoretical foundation: strategic capabilities for turbulent times

The dynamic capability's view

The dynamic capabilities framework (Teece, 2020; Teece, 2023) serves as our main theoretical framework because it defines capabilities as the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments. The Dynamic Capabilities View explains that organizations operate through three core functions such as detecting opportunities and threats, seizing opportunities through strategic investments, and transforming or reconfiguring resources as conditions progress. They were originally developed within the broader field of strategic management. The framework has gained renewed relevance in recent research examining firms operating in volatile, uncertain, and fast-moving environments shaped by digital transformation, geopolitical disruption, and systemic collision.

Dynamic capabilities show their effects through different mechanisms in film production organizations which operate through project-based work. The organizations maintain temporary operations which make it impossible to build permanent assets, so they depend on quick detection and relationship management and immediate control of resources. The producer becomes the central point for strategic capabilities because he must manage different team members who work under challenging conditions.

Strategic supply chain resilience

Supply chain resilience (SCRes) has evolved from a focus on recovery often conceptualized as "bouncing back" after disruption toward a broader understanding centered on adaptive capacity, and the ability to "bounce forward" through renewal, and transformation (Ivanov, 2020; Hillmann & Guenther, 2021). A strategy-based approach is adopted to view SCRes not as a passive expense but rather as an active advantage through which companies can maintain their survival and competitiveness in times of uncertainty (Ivanov D., 2020; Hillmann J., & Guenther E., 2021).

Supply chain resilience extends beyond its basic functions of generating operational strength through its backup systems. The procedure includes adaptive capacity which enables companies to manage their operational needs during disruptive events. Organizations can gain a strategic edge through resilience which allows them to perform better than their competitors during challenging times.

Film production processes use strategic SCRes through four main components which include Redundancy, Flexibility, Collaboration, and Visibility. Redundancy requires organizations to maintain essential competencies through multiple VFX vendors who can perform the same functions. Flexibility exists through contracts and operational processes that allow for changes by using multiple shooting blocks and crew who have different skill sets. Collaboration requires organizations to work with essential partners through complete partnership agreements which include shared benefits and shared risks. Visibility provides instant supply chain tracking through digital dashboards which show all production components in real time.

The strategic management field greatly refutes the so-called resilience investment paradox which presents resilience as a trade-off against efficiency. Companies achieve better results through resilience investments because these investments reduce potential losses and safeguard their brand value and support their ongoing strategic development. The film production process reveals its need for this new way of thinking because it shows all its potential failure points which can bring long-term damage to its reputation.

Risk management as a strategic variable

Conventional risk management approaches focus on two main strategies which include risk reduction and risk elimination. Strategic management considers risk to be an essential element which drives value creation. Firms need to manage their risk between two extremes because they must meet both their strategic goals and their organizational abilities.

Risk intelligence enables organizations to handle all three stages of risk management which include signal detection, risk interpretation, and risk response. The film production process uses strategic risk management to create a balance between its artistic goals, and its needs for operational success, financial management, and stakeholder satisfaction.

Film production decoded: a project-based strategic system*Anatomy of a film supply chain*

The process of film production consists of five distinct phases which create unique supply chain systems. The development phase includes three activities which serve as its core functions while using the following elements as its supply chain components: Writers, intellectual property, legal services, early-stage financiers. The pre-production phase includes four activities which serve as its core functions while using the following elements as its supply chain components: Production designers, casting directors, location managers, specialized equipment vendors. The production phase uses principal photography as its core activity which needs supply chain resources that include actors, crew members, camera lighting grip sound equipment, transportation, catering services, and filming locations. The post-production phase follows a sequence that begins with editing, and visual effects creation, sound design work, and ends with musical scoring, and colour grading. The distribution process includes three main activities which use this supply chain resources such as distributors, marketing agencies, cinema chains, and streaming platforms.

Each phase presents unique vulnerabilities. The production process suffers from pre-production delays because every day of lost preparation time results in two to three days of production expenses said Meyer A. D. (2019). The procedure's critical joints function through creative talent, specialized vendors, filming locations, post-production facilities, and intellectual property assets. Any disruptions occurring at these junctions will spread quickly to impact both expenses and project timelines and creative results.

Strategic characteristics of film production

The strategy of film making is unique in that it has three special features. The greatest expenditure on asset specificity occurs as per Williamson's (1985) transaction cost economic approach, which reaches its peak in film production. The assets which include lead actors, directors, and unique locations face irreparable damage because they function as essential components of the project. The occurrence of disruptions creates what Cattani et al. (2011) describe as "value leakage". The main asset of film production exists as its reputational capital which builds through the audience perception of its creative and commercial success according to DeFillippi and Arthur (1998). Study results show that disruptions create direct damage to this capital through release delays while they create indirect damage through audience perception of mismanagement. The release date functions as an unchangeable time frame which establishes seasonal cycles, and award eligibility windows and competitive market conditions. The failure to meet deadlines results in permanent loss of value because "No Time to Die" suffered in 2020 a release delay which cost MGM (Metro Goldwyn Mayer Studios Inc.) between \$30 million, and \$50 million according to marketing reconfiguration expenses.

Film production shares common characteristics with project-based industries through its construction and mega event production processes, however creative unpredictability, and market volatility create additional operational challenges.

The producer as strategic orchestrator

The film producer functions as what Sirmon, Hitt, & Ireland (2007) call a “resource orchestrator” structuring the production's asset portfolio, bundling resources into capabilities, and leveraging those capabilities to create value. The Bakker (2010) “temporary-permanent paradox” describes the challenge which this position must overcome: companies that last for limited time periods must develop permanent competencies (Petkova-Gourbalova, 2019). This function requires not only operational competence but also strategic judgment, relational capital, and risk management capability.

Methodology

This paper was designed based on conceptual theory rather than primary empirical data. The paper develops its theoretical framework through the combination of dynamic capabilities and supply chain resilience and risk management research. The study uses a qualitative research design which analyzes industry case studies and published reports and academic literature to create a new framework for film production. We developed a theoretical model that exists without primary data collection and statistical analysis because the research requires future experimental testing.

The research process consists of three stages which begin with creating a fundamental understanding of resilience through existing theories, and continue with assessing film production as a project-based strategic system to find its strengths, and weaknesses, and finish with creating a strategic risk classification system, and the film resilience strategic framework (FRSF). The FRSF building process develops through multiple iterations which connect strategic goals with risk evaluation, management decisions, resilience strategies, and result outcomes into a complete model.

Results and discussions

Typology for strategic risk: a 2x2 framework

The essence of this contribution is to support strategic decision-making: we are all invited to conceptualize in two dimensions: for strategic impact and managerial controllability.

Quadrant I: Strategic-Critical Risks (High Impact, Low Control)

These risks pose existential threats to the project since they fall outside the realm of what can be controlled by the project managers. The risks have some elements that cannot be predicted and they include the director's departure, lead actor unavailability, geopolitical conflicts, and pandemic shutdowns. The entity must put in place redundancy mechanisms, insurance, and create advance contractual agreements to manage these risks.

Quadrant II: Operational Core Risks (High Impact, High Control)

Those risks include equipment failure, key staff illness, and location access issues. The entity can mitigate operational risks by achieving process efficiency, supplier diversity, contingency planning even though risks maintain their significant impact.

Quadrant III: Peripheral Risks (Low Impact, High Control)

Peripheral risks involve minors scheduling problems and budget variances. The standard operating procedures of a company help the business manage peripheral risks since there is no need for strategic solutions.

Quadrant IV: Emergent External Risks (Low Impact, Low Control)

The risks involve minor regulatory changes and market fluctuations. The system requires continuous monitoring which enables agile response mechanisms to handle all situations.

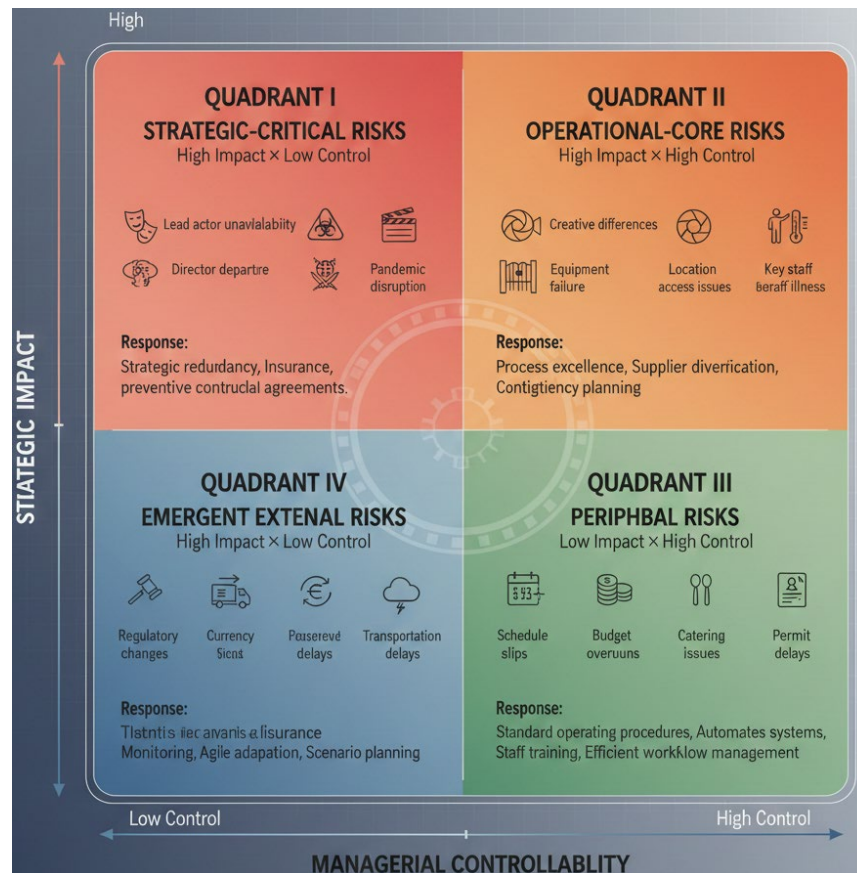


Figure 1. Strategic risk typology matrix for film production

Source: Authors' research.

The film resilience strategic framework (FRSF)

The film resilience strategic framework set up a conceptual framework that connects strategic planning with risk management, and resilience building based on the developed risk classification system.

Strategic objectives layer

The entity defines its strategic objectives through three primary goals. The primary objective requires them to complete their creative work which generates profits according to established financial limits. The secondary objective of the project is to create additional value for the franchise while it improves the organization's standing in the industry. And finally, the entity needs to acquire new skills that will serve its future projects.

All resilient investments need to support these three established objectives. The franchise films require their release protection systems to maintain their scheduled dates because release timing affects both merchandising, licensing and sequel development.

Risk exposure assessment

The company uses risk typology to assess critical vulnerabilities which affect its strategic objectives.

The FRSF uses our 2×2 system together with standard probability-impact matrices. The assessment of each risk results in two different scores which measure strategic impact on a scale from 1 to 10 and assess current preparedness with a system that ranges from 1 to 10. The difference between these two values establishes which investments should be prioritized. For example: Lead actor illness: Impact 9/10, Preparedness 3/10 → Priority: HIGH and Catering issues: Impact 2/10, Preparedness 8/10 → Priority: LOW. The lead actor's health condition shows a major effect on the production because the team needs to handle his medical condition. The catering problems usually have a minor effect on operations because the team has already prepared for multiple possible scenarios

Managerial choice portfolio

Managers have to consider four kinds of strategic trade-offs. Flexibility vs. Efficiency, the application of flexible contracts, such as paying or taking clauses, and force majeure clauses, will lead to increased cost but better protection from uncertainty. A three-tier strategy is advised, whereby flexibility is afforded to critical path elements, including lead performers and key locations, while a balance is maintained in important elements, such as departmental managers, with commodity elements, including general equipment, being efficient. Diversification vs. Depth, the use of multiple VFX vendors creates backup options but decreases the ability to develop deep relationships and obtain volume discounts. The FRSF recommends “orchestrated diversification”, primary relationships with 2-3 key vendors per specialty, supplemented by emerging vendor development programs. Control vs. Collaboration, companies that own both their equipment and VFX studios gain better control over operations yet lose operational flexibility. Strategic alliances with preferred vendors tend to provide better resilience because both parties work toward common objectives. Transparency vs. Security, the ability to see supply chain activities in real time allows companies to respond quickly but creates a possibility of information leaks. Digital platforms which use role-based access controls provide a solution for these two security needs.

Resilience mechanisms

The procedure operates through four essential components. The Operational Redundancy method extends beyond its financial backup requirements because it includes two specific elements. The system uses “Shadow pre-production” to develop plans for different production sites and their respective schedules. The project requires development of backup crew for all essential artistic positions. The organization needs to develop a backup system which combines two different methods to acquire essential equipment with matching specifications. Flexibility implementation of contractual innovations through flexible contract terms enables entity to create payment systems which follow their specific project milestones instead of fixed calendar dates. The company uses option-based models to manage both its talent resources and location selection. The entity defines “force majeure” through its flexible definition which includes pandemic events, and political disturbances, and “reputational contagion” situations. Organization establishes relational contracting through its business relations with vendors by using three specific methods. The

organization uses three methods to develop relational contracts with its vendors. The system establishes digital platforms which enable users to exchange information instantly through shared digital networks, which operate in real time. System uses digital twin technologies to develop virtual models that demonstrate production schedules and resource distribution and connection networks, which enable simulation testing of workflow interruptions and testing of response strategies.

Performance and sustainability outcomes

The FRSF measures success through both conventional metrics (budget adherence, schedule compliance), and strategic indicators. The formula for resilience ROI calculates the ratio between the cost of disruptions that have been prevented and the amount spent on resilience systems. Partner satisfaction scores and partner retention rates serve as performance indicators for the organization. The speed of recovery from disruptions measures the total production time that has been saved during the recovery process. The knowledge codification system measures its effectiveness through the number of lessons that have been documented for upcoming projects.

Learning and adaptation loop

Film productions do not maintain institutional memory because they function as modern entities instead of permanent entities. The FRSF requires companies to conduct official post-mortem analyses for their resilience programs. These analyses must show which resilience procedure functioned successfully, and which ones failed to function. The analysis must identify all unexpected risk types that emerged during the project. The study must evaluate how partners performed their duties when facing challenging situations. It should require all documentation related to franchise productions, and comparable content.

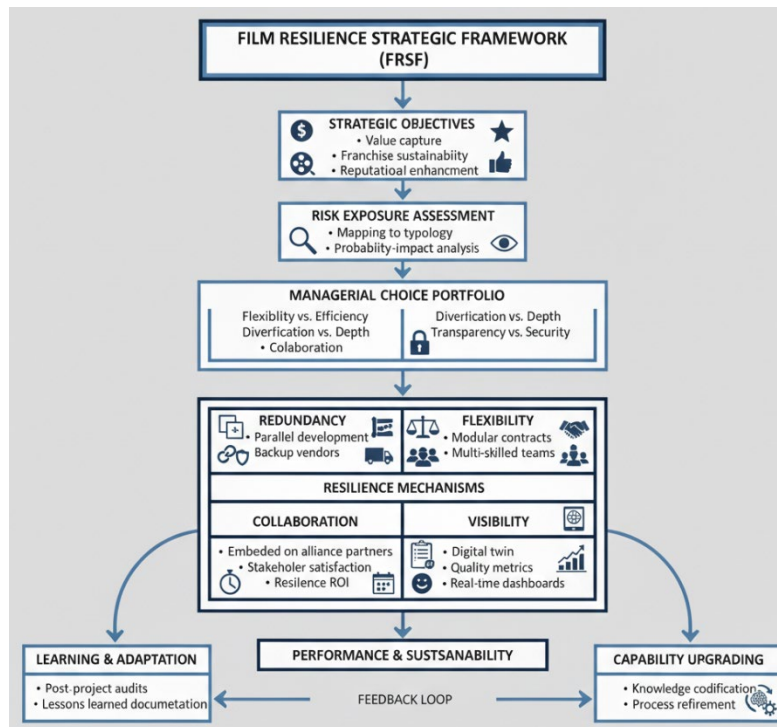


Figure 2. Film resilience strategic framework (FRSF)

Source: Authors' research.

Managerial implications: from theory to practice

For executive leadership (studios, financiers)

The project approval process requires resilience analysis to be integrated into its evaluation method. Projects which show advanced resilience planning capabilities should receive top priority because their uncertainty needs will be reduced. Portfolio Approach handles operational risks across its entire production schedule instead of managing each production separately. The entity needs to develop essential vendor partnerships while spreading its key relationships across different timeframes to prevent scheduling conflicts between similar projects, and to create backup capacities for important positions. They need to establish three to five year professional relationships with its vital vendors which include VFX studios and equipment, houses and post facilities through agreements that offer tiered pricing, and capacity commitments, and shared research development funding. They need to account for its resilient investments as capital expense because these investments deliver advantages across multiple projects.

For production management

The Resilience Charter requires the production bible (standard operating manual) to include specific operational procedures for handling two types of events. The first requires organizations to follow decision escalation paths when they face operational interruptions. The second requires entities to use their pre-approved alternative vendors, and personnel during scheduled vendor selections. The third requires entities to use their communication templates to inform stakeholders about crisis situations. The implementation of Strategic Redundancy requires the identification of 5 to 7 critical path items which usually include lead actor, director, primary location, and key VFX sequences to establish layered protection. The first protection method uses insurance, and contractual agreements. The second protection method uses pre-approved backup options which have received testing. The third protection method establishes creative flexibility through planned script modifications. The Real-Time Dashboards system requires digital tools to display the following information which tracks vendor delivery performance against their scheduled commitments. The system displays talent availability windows together with their buffer indicators. The system displays the status of location permits and contingency plans. The system displays weather conditions and geopolitical risk assessments for locations used in shooting activities.

For business education & training

The MBA curriculum integration framework provides three natural points for its implementation. The first insertion point through which the framework needs to be implemented requires case studies that compare resilient and fragile productions through which they will evaluate the results of “Mission: Impossible 7” versus “The Man Who Killed Don Quixote” production. The second point through which the framework needs to be implemented requires film production, which serves as an extreme case study of project-based supply chain management. The third insertion point requires strategic risk management instead of financial risk management. The executive training modules require development of customized education programs which will target three different groups of film industry professionals. The FRSF and risk typology matrix provide preexisting educational frameworks which educators can use to create experiential learning activities that include hypothetical production resilience simulations. The development of case studies needs to use multiple real-world examples which provide suitable case material for study. The vendor management system from Marvel Studios enables simultaneous production through its management of multiple vendor relationships. Netflix uses data analytics to create its production

planning system which also includes a risk assessment component. A24 developed its resilience strategies to support independent film production.

Strategic Impact and Research Relevance

The Film Resilience Strategic Framework (FRSF) translates supply chain resilience from a general principle into a structured strategic tool with direct implications for film companies. Firstly, it improves capital allocation decisions by linking strategic objectives to preparedness gaps, enabling managers to prioritize resilience investments based on impact, and controllability rather than intuition. This reduces exposure to critical path disruptions, and supports more disciplined portfolio management.

Secondly, the framework improves competitive positioning in a platform dominated industry characterized by compressed release cycles, global talent mobility, and high reputational sensitivity. Reliable delivery, protected release windows, and continuity of franchise production become strategic differentiators. In this context, resilience functions not merely as operational insurance but as a source of sustained competitive advantage.

Thirdly, the FRSF enables portfolio-level coordination across multiple productions by encouraging shared redundancy strategies, vendor diversification logic, and digital monitoring systems. This shifts resilience from project level contingency planning to a corporate level strategic capability.

From a research perspective, the model extends supply chain resilience theory into conventional high asset specific creative systems that remain underexplored in literature. It integrates dynamic capabilities and strategic risk management within a project-based context, and introduces measurable constructs such as preparedness gaps, resilience ROI, and recovery velocity that can support future empirical testing. By positioning film production as an extreme case of strategic supply chain management, the framework opens avenues for comparative research across creative and other project-based industries.

Conclusion

The article presents three interconnected arguments which support its main thesis. First, we have demonstrated that film production represents not merely a creative strive, but a strategic supply chain management challenge of exceptional complexity. Second, we have established that resilience in this context functions not as operational overhead, but as dynamic capability directly contributing to competitive advantage. Third, we have provided actionable frameworks, the strategic risk typology, and Film Resilience Strategic Framework that translate theoretical insights into managerial practice.

Our approach repositions supply chain resilience from defensive cost to offensive capability. The ability to anticipate absorb and adapt to disruptions becomes the crucial factor which determines which productions achieve commercial success and artistic excellence while others fail in the industry where one producer described every film as “a start-up and a bankruptcy rolled into 18 months”.

Our framework requires experimental testing because it functions as a conceptual article. The research process encounters difficulties because the film industry maintains secrecy about its production challenges. Our study of major studio films does not represent the complete picture of independent filmmaking because resource limitations create different ways that filmmakers handle challenging situations.

Future research should pursue three paths. The research requires both quantitative analysis and experimental verification to assess how resilience investments affect production results in multiple films. The project requires studios to provide access to their data which represents a major obstacle yet it has the potential to change the entire academic field. The framework needs additional research to test its applicability in project-based supply chain video game development, and live event production, and theatrical staging. Each creative industry path presents unique elements that can show the existing framework. The study monitors production progress from development until release to determine which resilience strategies deliver maximum advantages during each production phase while assessing how production teams implement learned lessons throughout their projects. It examines how blockchain rights management AI schedule optimization, and virtual production stages as emerging technologies create new methods for calculating business resilience.

The framework provides film managers with a new language, and logical system for supporting their resilience investment proposals which extend beyond standard contingency planning requirements. The framework establishes a research foundation which enables academic experts to study supply chain operations, and strategic management practices within creative industries. The framework supplies business educators who teach MBA programs with entertainment specializations actual content which combines theoretical knowledge, and practical use.

The ability to create resilient creative businesses has become vital for survival because modern society faces multiple challenges which include climate change, geopolitical conflicts, pandemic threats, and technological revolution. The frameworks presented here represent steps toward that capability which enables organizations to establish resilience as a fundamental element of their strategic management practices within the film industry, and other sectors.

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