

Project Business Management ^{1,2}

Resilience in Project Business Pt. 1: The Cost of Chaos

Oliver F. Lehmann

*"Chaos, when left alone, tends to multiply."
- Stephen Hawking*



Summary

With a rapidly changing geo-political landscape, resilience is no longer optional for Project Business performed by customers and contractors—it's a necessity. This first article of the series "Resilience in Project Business" delves into the profound impact of the foreseeable chaos and offers actionable insights to empower organizations to navigate disruption, align stakeholders, and thrive in high-stakes environments.

¹ This is an article in a series by Oliver Lehmann, author of the book "[Project Business Management](#)" (ISBN 9781138197503), published by Auerbach / Taylor & Francis. See full author profile at the end of this article. A list of the other articles in PM World Journal can be found at <https://pmworldlibrary.net/authors/oliver-f-lehmann>.

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Resilience in Project Business

This is the 1st article in a 3-part series titled “Resilience in Project Business”, exploring the tangible and intangible consequences of chaos in project business and the necessity of organizational resilience to mitigate its impacts.

The three parts of the series are titled:

Pt. 1 – The Cost of Chaos

Discussing special causes and effects of chaos that impact project business and the critical need for organizational resilience to effectively address and manage the challenges that come with it.

Pt. 2 – Bridging Gap in Project Ecosystems³

Addressing common disconnects between stakeholders in project networks, such as conflicting business interests, mismatched goals, communication barriers, and cultural differences.

Pt. 3 – The Resilient Project Contractor⁴

Exploring strategies contractors can adopt to build resilience, including risk management, financial stability, and adaptive business practices.

A PESTLE Analysis

Together, the three articles form a kind of PESTLE analysis, a crucial tool in Project Business Management, where the success of projects often depends on navigating complex and dynamic external environments. In project business, companies frequently engage in temporary and collaborative ventures that involve multiple stakeholders, such as customers, contractors, subcontractors, and other suppliers, often across international borders, governed by a system of contracts. Understanding the external factors that impact these ventures is essential to minimize risks and capitalize on opportunities.

Here's how PESTLE analysis applies to project business:

- **Political Factors:**

Projects are often influenced by government policies, trade agreements, and political stability. For example, in a cross-border infrastructure project, changes in tariffs, import/export regulations, or political instability in a partner country can disrupt the supply chain or

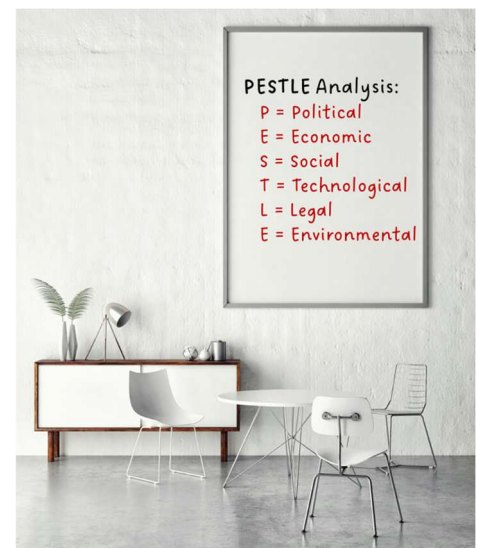


Figure 1: The six factors of PESTLE Analysis

³ (Lehmann, 2025a)

⁴ (Lehmann, 2025b)

affect funding. Political risks must be assessed to ensure the project remains viable and profitable.

- **Economic Factors:**

The economic environment affects cost management, financing, and market demand for the project. Fluctuations in currency exchange rates, inflation, or interest rates can significantly impact project budgets, especially in long-term or international projects. In project business, understanding the economic landscape is vital to securing reliable funding and setting realistic financial expectations.

- **Social Factors:**

In project business, social dynamics shape the expectations of end-users and stakeholders. For instance, a construction project in a community with a strong emphasis on sustainability might face opposition if it lacks eco-friendly practices. Similarly, demographic trends, such as a growing urban population, can create opportunities for new infrastructure or services.

- **Technological Factors:**

Technological advancements can both enable and disrupt project businesses. The use of advanced project management tools, automation, or cutting-edge construction techniques can enhance efficiency. Conversely, failing to adopt emerging technologies might lead to competitive disadvantages or missed opportunities.

- **Legal Factors:**

Compliance with legal frameworks is non-negotiable in project business. Contracts must adhere to local labor laws, safety regulations, and intellectual property rules. Disputes often arise from contractual ambiguities, so understanding the legal landscape is essential. Legal risks are heightened in multi-jurisdictional projects, where differing laws can complicate operations.

- **Environmental Factors:**

Projects increasingly operate under scrutiny for their environmental impact. Regulatory pressures to reduce carbon emissions, adopt renewable energy, or minimize waste can affect project planning and execution. Projects that align with environmental regulations and societal expectations often gain broader acceptance and long-term viability.

In the project business context, PESTLE analysis provides a structured framework to evaluate these external factors during the planning and execution phases. It enables project managers to anticipate challenges, design adaptive strategies, and align projects with the external environment. This holistic understanding helps mitigate risks, improve stakeholder collaboration, and enhance the likelihood of delivering successful outcomes in often high-stakes, high-complexity ventures – which are the objectives of this and the following articles.

Why Does this Series Matter?

There are strong reasons to expect major changes and challenges to organizations involved in Project Business in the near future. Given these potential issues, the articles explore how companies involved in Project Business—whether they are contractors or customers—can get ready for what's ahead. They stress the importance of planning ahead, building reserves, professionalizing their employees, and being flexible in their projects to respond to risks. The discussions also point out key actions that businesses can take to protect their interests and those of their stakeholders, ensuring they remain strong in uncertain times. By focusing on managing risks, communicating well, and working together, these companies can better prepare themselves to handle the ups and downs of the changing environment.

Harbingers of the Business Disruptions Ahead

Lessons Learned from the US Government Shutdown 2018/2019

The 2018/19 U.S. government shutdown, the longest in the nation's history at 35 days, sent shockwaves through the world of project contractors, revealing the precarious balance many businesses hold when dependent on federal projects. While media coverage during the shutdown focused heavily on the plight of government employees—whose wages were temporarily withheld but eventually reimbursed—there was a glaring omission: the untold struggles of project contractors. These businesses, whose invoices remained unprocessed and unpaid, faced a silent but severe crisis.

Some companies approached the author of this article during that time, asking for expert advice, but by then, it was too late to navigate their companies into safer waters. In the course of these days, no one knew how long the shutdown would last, and neither banks nor shareholders were prepared to give the companies bridging loans that were likely to become distressed soon.

As government agencies shut their doors and furloughed non-essential personnel, contractors suddenly found themselves unable to move projects forward. With no federal staff to provide the necessary approvals, oversight, or collaboration, work ground to a halt. For contractors, this wasn't just a matter of inconvenience—it was a question of survival. Many small and mid-sized contracting firms, reliant on steady payments from federal contracts, watched as their cash flow dried up almost overnight. Unlike federal employees, these businesses and their workers were left out of discussions on back pay. The shutdown created a stark divide between those who would eventually recover their losses and those who would not.

The financial strain was palpable. For some contractors, the lack of payments meant struggling to keep the lights on, pay employees, or meet obligations to subcontractors.

Projects that were suspended didn't simply pause; they became more expensive as delays triggered cost overruns, disruptions in supply networks, and the need for remobilization once operations resumed. Contractual challenges arose as well, with many contractors navigating disputes over missed deadlines and the renegotiation of terms due to circumstances beyond their control.

For workers employed by these contractors, uncertainty became the norm. With no assurances about when—or if—work would resume, skilled laborers began seeking opportunities elsewhere. The loss of critical talent during the shutdown created long-term repercussions for many businesses, compounding the immediate financial stress with longer-term operational challenges.

The broader economic ripple effects were undeniable. Vendors, subcontractors, and local businesses that relied on contractor spending all felt the pinch. Yet these struggles were largely invisible to the public eye, drowned out by the more prominent narrative of federal employees waiting for their paychecks. The damage to the US economy was later estimated at US-\$ 3 Billion.⁵

The shutdown exposed the vulnerabilities of contractors dependent on government projects and highlighted the need for resilience. It underscored the importance of financial reserves, diversified revenue streams, and contract clauses that address shutdown contingencies. For those affected, the experience was a harsh lesson in navigating the unpredictable intersection of business and politics—a lesson learned in silence as the spotlight remained elsewhere.

During that time, a key discussion centered on whether a government shutdown triggers Force Majeure contract clauses, which explicitly free organizations from their contractual obligations when unexpected events, beyond their control, make it impossible or unreasonable to meet those obligations.

Many organizations were caught off guard during the 2018/19 government shutdown. However, with the government's return to power in 2025, the chances of successfully invoking these "excuse clauses" will significantly diminish. As such, contractors—both with business within and outside the U.S. Government—must come into this situation fully prepared and proactive.

Another Major Disruption for Project Business: COVID-19

In late 2019, reports of a mysterious pneumonia emerged in Wuhan, China, but early warnings were suppressed, and the severity of the situation downplayed. As the virus spread unchecked, international travel continued, enabling COVID-19 to reach other countries before the world was adequately informed and prepared.

⁵ (Buchholz, 2024)

By February 2020, Northern Italy became a hotspot, with overwhelmed hospitals and nationwide lockdowns imposed in the city of Bergamo and others by March. These measures triggered ripple effects across the globe, leading to widespread economic shutdowns. For project contractors, the consequences were immediate and severe: supply chains were disrupted, contracts delayed or canceled, and workforces immobilized. Entire industries, particularly construction, manufacturing, and infrastructure projects, faced sudden halts as countries prioritized public health over economic activity.

The lack of early transparency and preparation revealed vulnerabilities in global project ecosystems, where contractors, often dependent on tight timelines and interconnected cross-corporate networks, struggled to adapt to the chaos. Many were forced to renegotiate terms, absorb losses, or shutter operations entirely, underscoring the need for resilience in project business during crises.

More Drivers of Chaos

It is unlikely that the political environment in the USA and in China will become more favorable to project business in the next four years, and many more disruptions are foreseeable, among them:

- **Decoupling of Economies:**
The Global Business Environment is undergoing a significant shift as major nations and blocs prioritize economic self-reliance over globalization. Geopolitical tensions and wars, supply chain vulnerabilities, and a growing desire for strategic autonomy drive this trend. While the aim is to bolster national security and economic resilience, the repercussions on International Project Business and project financing are profound and far-reaching.⁶
- **Renewed Nationalism:**
Chinese car manufacturers, for example, attempt in vain to penetrate European markets while European brands strive to maintain their foothold in China, where they are rapidly losing market shares. Nationalistic sentiments are influencing business strategies in both regions. Companies involved in Project Business are also reporting challenges due to the resurgence of nationalism.⁷
- **Extreme Weather Events:**
As climate change accelerates, the frequency and intensity of extreme weather events such as hurricanes, floods, wildfires, droughts, and heatwaves are increasing. These events pose significant challenges to project businesses, affecting their ability to plan, execute, and deliver projects on time and within budget.⁸

⁶ (Feingold & Weibel, 2023)

⁷ (Dow & Cuypers, 2023)

⁸ (World Meteorological Organization - WMO, 2022)

- **Stricter Regulatory and Compliance Requirements:**
Governments are imposing stricter regulations to mitigate environmental impacts, which can increase compliance costs and complexity. In high-risk areas, projects are required to meet enhanced standards for weather resistance, such as hurricane-proof buildings or flood defenses, raising upfront costs.⁹
- **War:**
Geopolitical tensions are escalating, exemplified by the ongoing wars in Ukraine, Palestine, Yemen, and more which have sent shockwaves through energy markets, disrupted global supply chains, and exacerbated inflationary pressures. Generating new alliances and hostilities, the conflicts highlight the fragility of the current global order and serve as a stark reminder of the risks posed by future wars, particularly in regions critical to international trade and economic stability.
- **Technological Disruptions:**
Rapid advancements in AI, automation, and digital currencies threaten to disrupt traditional business models, creating numerous opportunities as well as challenges. The shift from combustion engine vehicles to battery-electric motors represents another significant change worth noting. Electric vehicles do without many of the parts that traditional combustion cars, including the tailpipe and its emissions, and promise a lower Total Cost of Ownership (TCO).¹⁰
- **Insolvencies:**
A recent Allianz Research report¹¹ stated, “In 2025, the further rise in business insolvencies will put over 1.6mn jobs at risk in Europe and North America alone.” Contractors will suffer, too, when customers default, and vice versa.
- **The Degeneracy of People’s Minds:**
The growing inability of people to distinguish truth from lies and good from bad poses more challenges in Project Business. This erosion of discernment fosters an environment where misinformation and unethical behavior can proliferate, undermining trust between project stakeholders. Without a shared understanding of truth and integrity, contractual agreements, timelines, and deliverables become vulnerable to manipulation, leading to disputes and inefficiencies. Moreover, this ambiguity can compromise risk management, as distorted information may lead to poor decision-making, jeopardizing project outcomes. Ultimately, the inability to discern right from wrong threatens the very foundation of collaboration, which is vital in the complex, interconnected ecosystems of Project Business.

⁹ (Darvis, 1925)

¹⁰ (Krail & Leidenberger, 2023)

¹¹ (Boata, Kuhanathan & Lemerle, 2024)

The Financial and Managerial Impact

The cost of chaos will manifest in several ways:

- **Supply Chain Disruptions:**
Global supply chains are particularly vulnerable to external shocks, including geopolitical tensions, pandemics, and natural disasters. The cost of maintaining resilient supply chains will increase as businesses pivot toward diversification and localization. Companies may need to onboard multiple suppliers to avoid over-reliance on single sources, invest in inventory buffers, and adopt advanced technologies for supply chain visibility and responsiveness. These measures, while necessary, will raise operational expenses and potentially impact profitability.
- **Even More Regulatory Burden:**
As disruptions create ripple effects across industries, governments are likely to respond with tighter regulations aimed at safeguarding economies and societies. These regulations may require organizations to adopt stricter compliance measures, conduct more frequent audits, or meet additional reporting standards. While the intent is to mitigate systemic risks, compliance costs and administrative complexities will increase, adding to the strain on projects and organizations already dealing with chaotic environments.
- **Need for More Security and Risk Management:**
With escalating threats in cyberspace, physical infrastructure, and global markets, organizations will be forced to allocate significant budgets to risk management and security. Investments in cybersecurity tools, data protection protocols, crisis simulation exercises, and disaster recovery systems will grow. For project managers, this translates to increased responsibility for integrating robust risk mitigation strategies into project plans and allocating contingency budgets to address emerging threats.
- **Workforce Challenges:**
Uncertainty can erode workforce stability, making it harder for organizations to attract and retain top talent. Rising stress levels, burnout, and mental health challenges among employees will demand innovative approaches to workforce management. Companies may need to invest in continuous learning programs, flexible work arrangements, and holistic well-being initiatives to foster loyalty and maintain productivity. Failure to address workforce challenges could exacerbate project delays and derail critical deliverables.
- **Cash-Flow Problems:**
Late payments from customers and the risk of client insolvency will strain contractors, especially in project-driven businesses. Liquidity challenges can impact a contractor's ability to deliver on commitments, leading to quality issues and reputational damage. On the flip side, customers might encounter contractors unable to meet project requirements due to their financial constraints, further

complicating relationships. Establishing clear payment terms, robust contract management practices, and financial safeguards will be crucial to mitigate these issues.

- **Distrust:**

Trust, a cornerstone of successful project business, is often the first casualty in times of crisis. Organizations, forced to prioritize their own survival, may neglect contractual obligations or fail to communicate transparently with partners. This erosion of trust can create a vicious cycle where mistrust hinders collaboration, slows decision-making, and introduces inefficiencies. Rebuilding trust will require consistent communication, shared goals, and a commitment to ethical practices across all project stakeholders.

The conclusion is unavoidable: the global economic landscape is on the verge of profound upheaval, with multiple interconnected factors driving a seismic shift. Signs point to a multi-year period of disruption that could reshape the way businesses operate, interact, and survive.

As supply chains fracture under the strain of these conflicts and economic uncertainties deepen, businesses must grapple with the growing cost of chaos. This concept underscores the financial, operational, and strategic toll of navigating an increasingly volatile environment. With the potential for further geopolitical flashpoints, companies and nations alike face the urgent need to build resilience and adaptability to weather the coming storm.

A Shift

From Innovation and Growth to Resilience and Survival

Innovation and growth have been the twin engines propelling companies forward for much of modern business history. By harnessing groundbreaking technologies, revolutionary ideas, and radical strategies, organizations have expanded their market presence, streamlined operations, and achieved record efficiencies. The pursuit of growth was synonymous with success, and innovation was the beacon that lit the path.

However, the tides are shifting. Today, businesses face an era characterized by geopolitical instability. Rapid technological change is no longer sufficient to protect organizations and their projects from vulnerabilities, and this is even true for the most robust organizations.

The world is full of remainders and ruins of once great and powerful organizations and their projects. In this challenging landscape, the emphasis must evolve from pursuing expansion at all costs to ensuring resilience.

Resilience as a Core Competency

Resilience is no longer just a desirable trait; it has become a survival imperative. It encompasses the ability to anticipate risks, adapt to changing conditions, absorb shocks, and ultimately recover stronger. This paradigm shift does not imply the end of innovation or growth. Rather, these pursuits will often emerge as by-products of a resilience-first approach.

Where businesses once focused predominantly on scaling operations and capturing new markets, they must now prioritize flexibility, adaptability, and robust contingency planning. Strategic agility, robust risk management, and investments in crisis management systems are essential components of this resilience framework. The traditional "fail fast, learn fast" mantra of innovators must be complemented by a "recover fast, adapt better" mindset.

The Evolution of Business Strategy

In this new era, survival-focused strategies take precedence. Organizations are rethinking their supply chains to enhance robustness, investing in diversified revenue streams, and embedding sustainability into their core operations. Business continuity planning, cybersecurity fortification, and workforce well-being are no longer side projects; they are central to ensuring resilience.

Moreover, resilience fosters long-term growth. Companies that build adaptive capacity and safeguard their operations during crises are better positioned to seize opportunities when conditions stabilize. In this way, resilience becomes the bedrock upon which sustainable innovation and growth are built.

Who Will Pay the Cost of Chaos?

In the complex ecosystems of modern business, the cost of chaos is both pervasive and multifaceted, touching every stakeholder involved in a project. Understanding who ultimately bears these costs is essential for crafting strategies to minimize their impact and allocate responsibilities effectively.

- **The Immediate Victims: Customers and End Users:**
When chaos strikes, customers and end users often feel the first wave of disruption. Product delays, service interruptions, and unfulfilled promises lead to dissatisfaction, lost trust, and, in extreme cases, harm to the individuals or communities relying on the products or services. These losses can cascade, affecting the public's perception of the organization and impacting long-term customer loyalty.
- **The Financial Stakeholders: Investors and Shareholders:**
For investors and shareholders, chaos equates to financial instability. The

unpredictability of revenue streams, increased operational costs, and potential loss of market share can devalue investments and destabilize financial portfolios. In some cases, major disruptions will lead to bankruptcies, wiping out investor capital entirely.

- **The Workforce: Employees and Contractors:**
Employees and contractors also pay a significant portion of the cost. Layoffs, reduced hours, and high-stress environments can undermine morale and productivity. In extreme cases, individuals lose not only their income but also their professional identity and career trajectories.
- **The Organizational Leaders: Executives and Managers:**
Executives and managers face both reputational and operational costs. Failed projects, unmet goals, and public scrutiny can tarnish leadership credibility. Moreover, the ripple effects of chaos, such as declining revenues and operational inefficiencies, often necessitate difficult decisions that may compromise their leadership vision and future opportunities.
- **The Broader Ecosystem: Supply Chain Partners and Communities:**
Supply chain partners—vendors, distributors, and logistics providers—often bear indirect costs, including delayed payments, disrupted production schedules, and lost business opportunities. Similarly, local communities may face broader economic and social impacts, particularly if they rely heavily on the organization for employment, infrastructure development, or community services.

Accountability and Mitigation: A Shared Responsibility

Mitigating the cost of chaos requires a shared responsibility across all stakeholders. Resilient project business practices—from transparent communication and robust risk management to equitable cost-sharing mechanisms—are key to minimizing the fallout. By fostering collaboration, organizations can distribute the burden more equitably over the cross-corporate project and ensure that chaos does not disproportionately affect the most vulnerable stakeholders.

Preparing for the Storm

To afford the cost of chaos, organizations will need to:

- **Invest in Resilient Systems:**
Build redundancy and flexibility into processes, technology, and infrastructure.

- **Foster Strategic Partnerships:**
You cannot survive the storm alone. Collaboration across industries and sectors will be key to navigating shared challenges.
- **Focus on Long-term Value:**
Shift from short-term profits to sustainable, long-term growth strategies.
- **Strengthen Crisis Response:**
Develop robust plans for various scenarios, ensuring readiness for unforeseen disruptions.
- **Build Reserves:**
Without reserves, you will be just an idle observer of the big events to come.

Global leadership has changed from bringing predictability and order to quick wins, often more for themselves than for the communities they are in charge of. This adds a unique layer of uncertainty to the complex landscape of International business. In the years ahead, the businesses that survive and thrive will be those that recognize resilience not as a reactive measure but as a strategic imperative. The ability to withstand chaos and bear its cost will define success in this new era.

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- <https://pmworldlibrary.net/authors/oliver-f-lehmann>