

The Supply Chain of Misinformation: How Fake News Impacts Global Supply Decisions

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Abstract: In today's volatile information ecosystem, the proliferation of fake news and misinformation presents a new and underexplored risk to global supply chain operations. With supply chain decisions increasingly dependent on digital signals, market trends, and geopolitical narratives, inaccurate or deliberately misleading information can lead to poor procurement choices, supplier disengagement, inventory misalignments, and panic-driven disruptions. This paper conceptualizes the phenomenon of misinformation as a form of "informational contamination" within supply chain networks. Drawing on sensemaking theory and contingency theory, the paper develops a framework that traces how misinformation originates, propagates, and ultimately influences global supply chain decision-making. The proposed framework introduces constructs such as the misinformation source, transmission channels, organizational interpretation mechanisms, and the resulting strategic or operational responses. This study contributes to the literature on supply chain risk management by extending current frameworks to include informational asymmetry and digital signal reliability, while also offering guidance for mitigating misinformation risks through verification protocols, digital media monitoring, and cross-functional communication resilience.

Keywords: *Misinformation, fake news, supply chain decisions, sensemaking theory, risk management, informational disruptions, digital signals, information contamination*

1. Introduction

In the era of hyperconnectivity and digitization, information has become the lifeblood of global supply chains. Strategic decisions regarding sourcing, procurement, logistics, and inventory management increasingly rely on real-time data, digital signals, and external market intelligence (Ali, Rajagopal, Sundram, Saihani, & Noranee, 2020; Handra & Sundram, 2023; Rasi et al., 2022; Razak, Othman, & Sundram, 2015; Sundram, Ghapar, Lian, & Muhammad, 2023). However, the global information environment is now saturated with misinformation and fake news, posing a critical yet underrecognized threat to the integrity of supply chain decision-making (Lazer et al., 2018; Starbird, 2019). The spread of false information—whether unintentional misinformation or deliberate disinformation—can lead to reactive, misinformed, and costly supply chain strategies (Tandoc et al., 2018; Ahmed et al., 2020).

This risk has become particularly visible in the aftermath of crises such as the COVID-19 pandemic, where fake news about shortages of raw materials, lockdown policies, or port closures prompted knee-jerk procurement decisions and unnecessary inventory hoarding (Choi, 2021; Sharma et al., 2022). Similarly, geopolitical misinformation—such as manipulated narratives around sanctions or conflict escalation—has distorted sourcing decisions and trade route planning (Ghosh & Scott, 2018; Radziwill & Benton, 2017). The traditional scope of supply chain risk management typically includes physical disruptions like natural disasters and strikes, but informational disruptions—driven by misleading content and viral narratives—are now emerging as equally destabilizing forces (Van der Vegt et al., 2019; Paschen et al., 2020).

Figure 1: Prevalence of Exposure to False or Misleading Information on Social Media in Selected Emerging Economies

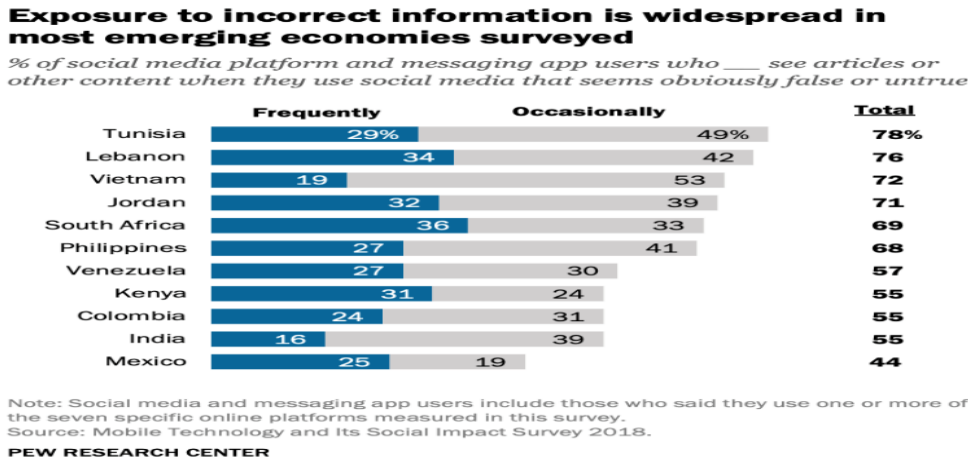
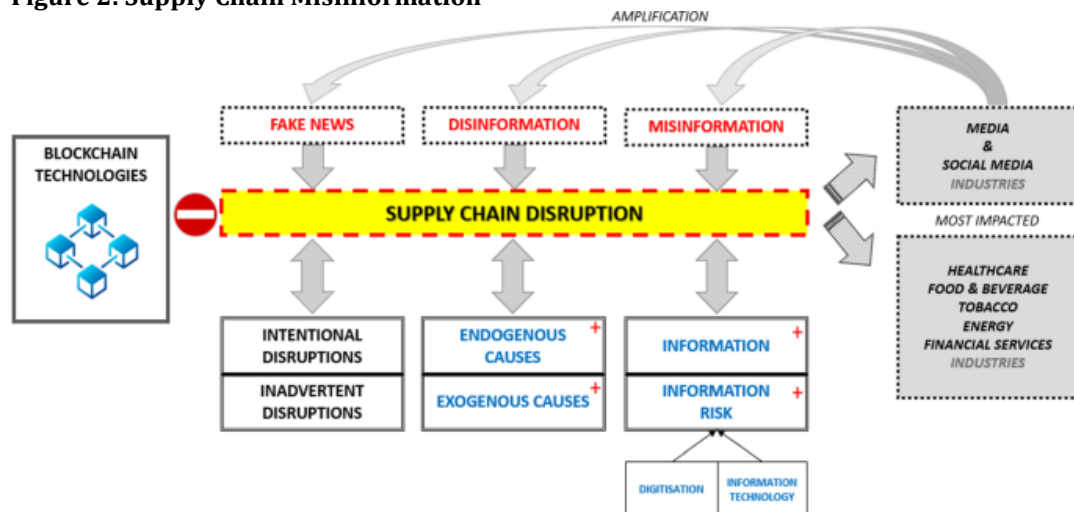


Figure 1 from the Pew Research Center (2018) shows that large shares of social media users in several emerging economies report exposure to false or misleading content—up to 78% in Tunisia and 76% in Lebanon. At scale, such narratives can jolt supply chains: they skew consumer perceptions, spark panic buying or boycotts, and tarnish supplier and brand reputations. A single rumor about product safety or origin can whipsaw demand, scramble replenishment logic, and produce costly inventory misalignments. In this environment, supply chain managers need an integrated toolkit—clear communication protocols, targeted risk-mitigation playbooks, and robust digital monitoring and verification—to detect, dampen, and correct misinformation before it hardens into operational disruption. Despite rising concern, scholarship at the intersection of fake news and global supply chain dynamics remains limited (Narayanan et al., 2024a; Narayanan et al., 2024b; Narayanan et al., 2024c; Narayanan, Ghapar, Chew & Sundram, 2024a; Narayanan, Ghapar, Chew & Sundram, 2024b; Sundram, Narayanan & Irwan, 2025).

Existing research in supply chain management focuses largely on tangible risks, operational agility, and digital transformation (Ivanov & Dolgui, 2020; Dubey et al., 2021), while the cognitive and informational dimensions of decision-making remain relatively unexplored. Moreover, the interdisciplinary literature on misinformation, while rich in political science and communication studies, has yet to be sufficiently applied to operations and supply chain contexts (Bovet & Makse, 2019; Shu et al., 2020). This lack of conceptual integration leaves a critical gap in understanding how fake news influences the interpretative frameworks of supply chain professionals, and how it may lead to risk amplification or suboptimal decision outcomes (see Figure 2).

Figure 2: Supply Chain Misinformation



To close this gap, the paper advances a conceptual model of a “supply chain of misinformation” that traces how misleading signals move through digital networks and ripple into global sourcing and planning choices. Grounded in sensemaking theory (Weick, 1995) and contingency theory (Donaldson, 2001), the model frames misinformation as a latent, context-dependent risk that co-evolves with managerial cognition, organizational routines, and structural weak points. In this view, false or distorted inputs are not merely a communications nuisance; they skew demand signals, shift reorder points and safety-stock policies, bias supplier evaluation, and erode inter-firm and stakeholder trust. Recasting misinformation as a supply chain risk highlights concrete managerial levers—procurement governance, inventory rules, supplier oversight, and stakeholder engagement—through which firms can buffer, detect, and adapt to misinformation shocks. By synthesizing insights from information disorder studies, behavioral operations, and digital supply chain literature, the paper offers a foundation for future research on mitigating informational asymmetry and enhancing decision resilience in global supply networks.

2. Literature Review

The Role of Information in Supply Chain Management

Information is central to the functioning and optimization of supply chains, affecting forecasting accuracy, procurement planning, logistics routing, and responsiveness to disruptions (Christopher, 2016; Ivanov, 2021). Effective information flow enhances supply chain visibility, enabling stakeholders to act promptly based on demand signals, supplier statuses, and geopolitical updates (Choi, Wallace, & Wang, 2018; Dubey et al., 2021). With the digitization of supply chain operations through Industry 4.0 technologies, organizations increasingly rely on external digital signals—news media, social media analytics, and market intelligence platforms—to guide strategic and operational decisions (Sodhi & Tang, 2021; Queiroz et al., 2020). However, this heightened dependence on external data introduces vulnerabilities, especially when such information is unverified or manipulated. Scholars emphasize that inaccurate or biased information can impair decision quality, erode trust among stakeholders, and amplify operational risks (Sarkis, Zhu & Lai, 2011; Ivanov & Dolgui, 2020). Yet, few studies have addressed how the *quality* and *credibility* of external information affect supply chain decision-making outcomes (Papadopoulos et al., 2022; Blome et al., 2014).

Misinformation and Fake News: Definitions and Spread Mechanisms

Misinformation refers to false or misleading information shared without intent to harm, while disinformation is deliberately crafted to deceive (Wardle & Derakhshan, 2017; Tandoc, Lim, & Ling, 2018). In digital ecosystems, both forms of false information spread rapidly via social media platforms, automated bots, and algorithmic amplification, often outpacing corrections and fact-checks (Lazer et al., 2018; Shu, Wang, & Liu, 2020). Recent literature identifies several characteristics of fake news dissemination: emotional appeal, visual virality, and low barriers to content creation and distribution (Pennycook & Rand, 2019; Ahmed et al., 2020). Misinformation thrives in crisis scenarios, where uncertainty creates an information vacuum that is quickly filled with speculation or fabricated narratives (Starbird, 2019; Sharma, Adhikary, & Borah, 2022). This phenomenon is particularly relevant to supply chains, which are deeply embedded in complex and volatile international contexts susceptible to rumor-driven fluctuations (Paschen, Kietzmann, & Kietzmann, 2020; Radziwill & Benton, 2017).

Supply Chain Risk and the Emerging Role of Informational Disruptions

Conventional supply chain risk frameworks focus on physical and financial shocks—natural disasters, supplier failure, and geopolitical flare-ups—while largely underestimating the destabilizing force of misleading information (Tang & Veelenturf, 2019; Wieland & Wallenburg, 2012). Growing evidence shows that such “informational disruptions” can spur panic responses, warp risk judgments, and decouple planning from real demand (Choi, 2021; Dubey et al., 2021). Reflecting this gap, Ivanov and Dolgui (2020) urge a wider risk lens for digital supply chains—one that accounts for the reliability of information inputs and the decision biases they trigger. In the same vein, Van der Vegt et al. (2019) and Paschen et al. (2020) warn that misinformation can seep into AI-driven analytics, hard-coding spurious signals into automated routines and magnifying their downstream effects. While behavioral operations research acknowledges cognitive biases in human decision-making (Gino & Pisano, 2008; Croson, Schultz, & Siemsen, 2013), its intersection with misinformation in SCM remains underexplored.

Gaps in Literature and the Need for a Conceptual Framework

Although misinformation has been studied in political science, health communication, and journalism, its impact on business operations—especially supply chain decision-making—remains under-theorized (Bovet & Makse, 2019; Tandoc et al., 2018; Shu et al., 2020). There is currently no unified conceptual framework that explains how misinformation flows through a supply chain context, how it is interpreted by decision-makers, and what strategic or operational outcomes it triggers. This paper addresses this gap by proposing an integrated framework grounded in sensemaking theory (Weick, 1995) and contingency theory (Donaldson, 2001). It introduces the concept of a “misinformation supply chain” comprising the source, transmission, reception, and decision-making response, offering a new lens to understand and mitigate informational disruptions in global supply chains (Ibrahim, Sundram, Omar, Yusoff, & Amer, 2017; Muhammad, Narayanan, Ghapar, Chew, & Sundram, 2025; Wong Chee, Sundram, Bakar, & Narayanan, 2024).

Theoretical Underpinning

Understanding how fake news influences supply chain decisions requires integrating insights from organisational behaviour, information systems, and strategic management. This paper adopts a dual-theoretical lens—sensemaking theory and contingency theory—and supplements it with insights from information ecology and media richness theory to capture the dynamic interaction between actors, information, and context within global supply chains.

Sensemaking Theory

Sensemaking theory (Weick, 1995) explains how people and organizations turn ambiguous or novel cues into plausible narratives that guide action. In a misinformation context, supply chain managers must parse fragmented and often conflicting signals to decide what to do next. The task becomes harder during disruptions, when time pressure and information overload warp attention and perception (Maitlis & Christianson, 2014; Whiteman & Cooper, 2011). When false cues enter this sensemaking process, they distort what gets noticed, how events are framed, and when managers “close” on an explanation—inviting premature conclusions and misaligned strategic shifts (Selvarajah et al., 2025; Narayanan, Rui, Sundram, & Irwan, 2025; Sundram et al., 2018).

Contingency Theory

Contingency theory argues that no single strategy is best in all circumstances; effectiveness depends on the fit between choices and context (Lawrence & Lorsch, 1967; Donaldson, 2006). In global supply chains, the way firms respond to misinformation therefore hinges on factors such as industry dynamics, workforce digital literacy, media-monitoring sophistication, and geographic dispersion. Organizations with decentralized, modular structures and agile digital networks can sense and absorb informational shocks more quickly, while highly integrated or rigid designs tend to magnify exposure through slow decision cycles and single points of failure (Sousa & Voss, 2008; Ginsberg & Venkatraman, 1985).

Information Ecology and Media Richness Theory

Stepping beyond behavioral lenses, the information-ecology perspective situates organizations within a web of information actors, technologies, and cultural norms that shape how data is filtered, interpreted, and trusted (Nardi & O'Day, 1999). This ecology is especially salient in multi-tier supply chains, where unverified claims can cascade across upstream and downstream partners without systematic validation, compounding systemic risk. In parallel, media richness theory (Daft & Lengel, 1986) reminds us that channels differ in their capacity to convey equivocal content. The growing reliance on low-richness platforms (e.g., X/Twitter, WhatsApp) for operational updates increases the likelihood that complex or uncertain signals will be simplified, misread, or stripped of context. Taken together, these perspectives provide a multidimensional footing for explaining how false cues seep into supply networks and distort decisions (Selvarajah et al., 2025; Narayanan, Rui, Sundram, & Irwan, 2025; Sundram et al., 2018). By integrating psychological, structural, and informational lenses, the framework advanced in this paper offers a holistic path to map, diagnose, and mitigate misinformation-driven supply chain risk.

3. Conceptual Framework

This paper proposes a conceptual model called the Supply Chain of Misinformation Framework, which illustrates how fake news and misleading narratives propagate through supply chain ecosystems and distort organizational decision-making. The model consists of five interrelated stages: (1) Source of Misinformation, (2) Transmission Channels, (3) Organizational Reception and Filtering, (4) Cognitive and Strategic Interpretation, and (5) Supply Chain Decision Outcomes. These stages are influenced by external and internal moderators such as information verification capabilities, digital infrastructure, and organizational culture.

Source of Misinformation

Misinformation can originate from many corners—partisan media, political propaganda, opportunistic or rogue suppliers, and even AI-generated content. In most cases, these actors are not targeting supply chains; they aim to provoke emotional or ideological reactions (Marwick & Lewis, 2017; Friggeri et al., 2014). Yet the spillover is real: when firms tap into the same news feeds, social platforms, or intelligence providers, these narratives can propagate as common-mode signals, ripple through planning and sourcing routines, and ultimately unsettle global production systems.

Transmission Channels

Once generated, misinformation flows through digital transmission channels such as social media platforms, messaging apps, syndicated news aggregators, and even supply chain software dashboards linked to real-time feeds (Vosoughi, Roy, & Aral, 2018; Zubiaga et al., 2016). Unlike verified media sources, these channels often lack gatekeeping mechanisms, increasing the velocity and reach of false claims. In globalized supply chains, these channels cross organizational and geographic boundaries with little resistance.

Organizational Reception and Filtering

Organizations receive this information and interpret it based on their technological readiness, media literacy, and internal control mechanisms. Firms with poor verification systems or overreliance on automated data ingestion tools are more susceptible to absorbing misinformation as fact (March & Simon, 1958; Tan, Pan, & Zuo, 2021). Additionally, the presence of echo chambers—where decision-makers only receive confirmatory information—further reduces the ability to challenge misleading narratives.

Cognitive and Strategic Interpretation

Once internalized, the information is subjected to sensemaking processes. Managers attempt to decode the significance of the data in light of existing strategies and market assumptions (Weick, 1995; Maitlis & Sonenshein, 2010). Cognitive biases such as confirmation bias, anchoring, or availability heuristic can influence how the misinformation is interpreted, potentially leading to overreaction or strategic misalignment (Kahneman & Tversky, 1979; Bazerman & Moore, 2012).

Supply Chain Decision Outcomes

Misinformation-affected interpretation can result in flawed supply chain decisions such as panic procurement, supplier disengagement, inventory overshooting, or withdrawal from critical markets (Yu, Jacobs, & Salisbury, 2021; Yoon, Talluri, & Rosenzweig, 2020). Over time, repeated exposure to such disruptions can erode supplier trust, damage reputations, and reduce organizational resilience.

4. Propositions

Anchored in the proposed framework, we advance propositions that explain how misinformation shapes supply chain decisions through sensemaking dynamics, contingency fit, and cognitive-behavioral mechanisms. Together, they treat informational disruptions as systemic—not incidental—features of global supply networks.

Proposition 1: Misinformation Exposure and Supply Chain Risk

Organizations that absorb more unverified external signals are likelier to make errors in procurement, logistics, and supplier management, especially when internal verification is weak (Kwon, Cha, Jung, Chen, & Wang, 2017; Tan, Pan, & Zuo, 2021). *Testable form:* H1: Exposure to unverified information is positively associated with

decision-making errors; the relationship is stronger when verification capacity is low.

Proposition 2: Digital Literacy and Filtering Systems as Mitigators

Investments in digital media literacy, automated filters, and verification protocols reduce the impact of misinformation during interpretation and choice (Scholz, Smith, & Steill, 2020; Sivarajah, Kamal, Irani, & Weerakkody, 2017). *Testable form:* H2a: Digital literacy negatively moderates the effect of misinformation exposure on decision errors. H2b: The presence of verification/traceability tools weakens that effect.

Proposition 3: Organizational Structure and Response Adaptability

Decentralized, modular, and empowered structures adapt more rationally to misinformation shocks than centralized, bureaucratic designs (Liao, Hong, & Rao, 2010; Zhou & Benton, 2007), consistent with contingency theory (fit to uncertainty). *Testable form:* H3: Organizational agility positively moderates the relationship between misinformation exposure and decision quality (i.e., dampens the harm).

Proposition 4: Echo Chambers and Cognitive Bias in Decision-Making

When decision makers inhabit echo chambers—receiving repeated, homogeneous cues—misinformation is reinforced, corrective signals are discounted, and strategic responses drift (Del Vicario et al., 2016; Ecker, Lewandowsky, & Chadwick, 2020). *Testable form:* H4: Echo-chamber intensity is positively associated with cognitive lock-in and mediates the link between misinformation exposure and suboptimal risk mitigation.

Proposition 5: Misinformation-Induced Disruptions Undermine Supply Chain Resilience

Chronic informational disruptions undermine trust, inflate operating costs, and weaken long-run resilience by damaging collaboration and slowing crisis response (Tang & Musa, 2011; Chowdhury & Quaddus, 2017). *Testable form:* H5: Cumulative misinformation exposure is negatively associated with supply chain resilience (redundancy, adaptability, recovery speed) via reduced inter-firm trust and collaboration.

5. Discussion and Implications

This conceptual paper extends the discourse in supply chain risk management by introducing the *Supply Chain of Misinformation* framework, which maps how false or misleading information flows through digital networks and affects supply chain decision-making. Unlike traditional models that focus on physical, financial, or operational risks, this framework addresses the cognitive and informational dimensions of global supply chains, offering a new perspective on how misperceptions, narrative contagion, and digital signal distortion can compromise organizational resilience.

Theoretical Implications

First, the paper advances supply chain risk theory by integrating sensemaking and contingency perspectives to explain how organizations interpret and act on misinformation under different contextual conditions. It formalizes two constructs—“informational contamination” and “cognitive vulnerability”—that shift the focus beyond simple data inaccuracy to the behavioral consequences of absorbing false signals within supply chain decisions.

Second, the framework specifies a layered disruption pathway that traces where misinformation enters and how it propagates: from its origin, through transmission channels, into organizational filters, onward to managerial interpretation, and finally into operational actions. By naming these entry points and failure modes, the model highlights concrete levers for diagnosis and intervention (e.g., source provenance checks, channel selection, filter diversity, decision-latency controls), providing a clear roadmap for mapping and mitigating misinformation-driven risk.

This process-oriented view opens new avenues for examining how cognitive biases and systemic weaknesses influence strategic supply chain choices. Third, the paper complements existing models in behavioral operations and information systems by suggesting a feedback loop, where decisions made under misinformation pressure can themselves become future misinformation sources. This recursive risk dynamic underscores the need for longitudinal monitoring of informational signals in supply networks.

Managerial Implications

From a practical perspective, supply chain professionals must recognize that misinformation is not only a communications or public relations issue, but a strategic threat. Managers must actively invest in information verification protocols, train teams in digital literacy, and establish media auditing systems to filter and cross-check data used for sourcing, procurement, and supplier engagement decisions. Moreover, firms should consider creating cross-functional misinformation response teams—comprising supply chain managers, IT personnel, crisis communication experts, and procurement officers—to evaluate high-risk narratives and determine whether and how they should be operationalized. Embedding risk-sensing capabilities into ERP systems and digital twins could further support early detection of anomalous or potentially misleading signals.

Policy and ESG Implications

At the policy level, governments and industry associations may need to include information integrity as part of ESG (Environmental, Social, and Governance) reporting frameworks. Just as transparency in labor or environmental practices is audited, so too should organizations be assessed for how they handle external information and prevent misinformation-driven decisions. Standard-setting bodies such as ISO or GRI could integrate informational resilience metrics as part of future reporting guidelines.

Conclusion

This paper conceptualizes misinformation as a systemic and cognitive risk to global supply chains, proposing the *Supply Chain of Misinformation* framework as a diagnostic and explanatory tool for understanding how false narratives affect decision-making. Through the integration of sensemaking and contingency theories, it highlights the mechanisms by which misinformation originates, spreads, and influences organizational behavior at multiple nodes in the supply chain. The proposed framework is not intended to be exhaustive but rather offers a foundational structure for future empirical inquiry. As supply chains become more digitally integrated and globally complex, informational accuracy becomes a strategic asset. Therefore, developing robust informational hygiene practices is not only critical for supply chain continuity but also for ensuring ethical, resilient, and adaptive supply networks in the age of digital misinformation. Future research should empirically test the propositions outlined in this paper, explore industry-specific vulnerabilities, and examine the role of technological interventions—such as AI-based misinformation detection and blockchain-verified data streams—in strengthening the supply chain's immune system against informational disruptions (Sivan et al., 2024a; Sivan et al., 2024b; Vatumalae, Rajagopal, & Sundram, 2020).

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