

# Risky Complaints: Unpacking Recent Trends in Risk Assessment Across Global Supply Chains

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## Abstract

Recently, new AI supply chain risk management technologies promise to aid in the anticipation and reaction to potential disruptions. They rely on new data sources such as social media data and online news. Among the phenomena marked risky are also so-called political risks such as local protests, labor strikes, and other forms of unrest. These systems promise to better inform investment and mitigate political and labor risks to companies. Recently, also legal concerns make such technologies that promise visibility more appealing to companies as new regulations in the EU and beyond require greater oversight to curb human rights abuses and environmental damage across supply chains. Concerningly, this technology also potentially undermines worker voice and labor action as it can be used to make their impacts felt less by companies with more control over supply chain operations. In this paper, I use situational analysis to critically unpack descriptions and broader discourse in public materials of data and algorithms potentially used within such systems. I problematize emerging risk assessment logics in supply chain management and discuss political issues this technology poses to protest as a form of democratic participation.

## Keywords

Digital Supply Chain, Risk Management, Labor Surveillance, Analytics, Science and Technology Studies

## 1. Introduction

In the last years, concerns about the resilience of global supply chains have increased after many felt disruptions in their everyday lives. This led to established regimes that focused foremost on optimizing speed and cost, e.g., via offshoring and just-in-time management, to be questioned. As noted by an industry magazine, “supply chain disruptions are increasingly unavoidable” [1], and thus, companies should consider shortening their supply chains and creating more transparency. In addition, new regulations across the globe are mandating companies to improve supply chain transparency due to concerns about sustainability and human rights. For example, a recent law in Germany increased requirements for companies to identify and mitigate human rights abuses and negative environmental impacts. Similarly, in the US, the Uyghur Forced Labor Prevention Law requires US importers to prove that goods were not produced with the involvement of forced labor [1].

These calls for visibility and resilience also partially align with promises made by advocates of digital supply chains, which also promote AI products for risk management. These new tools

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promise to aid in the anticipation and reaction to potential disruptions and increase transparency across global supply chains. Among the phenomena identified by them are so-called political or human-made risks such as labor strikes, human rights abuses, and unrest [2]. In this short paper, I present preliminary insights based on research on risk management AI tools that target protests and strikes. I understand them as a form of Unrest Detection and Prediction technology (UDP). These systems promise to inform investment and to mitigate political and labor risks by minimizing impacts of disruptions, e.g., by reactively changing suppliers and aiding in the avoidance of reputational damage, e.g., when labor disputes may point to problematic working conditions [3]. Concerningly, this technology potentially undermines worker voice and labor action as it also often seeks to lessen their impacts on companies with more control over global supply chains.

I aim with this work to unpack emerging risk categorizations in supply chain management as new AI tools are adopted and tried out. I discuss their implications and point to possibilities for different supply chain futures. In my analysis, I understand these supply chain risk management tools as classification infrastructures [4] in modern globalized supply chain capitalism [5, 6] that enable surveillance practices meant to control and manage workers and suppliers. I argue they should be seen as technofixes [7, 8] often meant to close debates on problematized practices through performances of compliance without meaningfully addressing underlying structural inequalities. These tools thereby both potentially enable problematic surveillance and also normalize it. My analysis ultimately problematizes these risk assessment tools in supply chain management, points to challenges in regulation to improve transparency and accountability of supply chain risk management, and discusses issues this technology poses to protest as a form of democratic participation.

## 2. Methods

I use situational analysis [9] to critically unpack data and algorithms potentially used within such systems, as well as related discourses that frame the technology as an integral part of the future of supply chain management. My analysis is mostly based on public documents such as research papers, videos, web pages, reports, and advertisements. My focus is on materials produced by companies and researchers in positions to shape and use these systems, with the aim of “studying up” [10] and critically examining established practices and assumptions. I understand these documents as created with certain audiences and conventions in mind [11], and thereby treat them not as mere factual statements but as human-made and imbued with priorities that can give important insight into related discourses and practices but don’t reveal absolute, underlying truths. Since some of these practices are treated as trade secrets, only limited public information is available, which further increases the difficulty of conducting this research. This also holds for more detailed information about surveillance practices targeting social movements, which tend to be considered risky. They often become known to wider audiences through investigative journalism and leaks, e.g., how Amazon is developing social media surveillance tools to watch workers [12]. These challenges pose limitations to this research.

### 3. Unpacking Algorithmic Risk Assessment

The great availability of all kinds of data on the internet, such as online news articles, blog posts, and social media posts, has made the collection of so-called “open source intelligence” [2] more feasible. It has motivated a shift in corporate intelligence and knowledge practices toward increasingly considering also big, alternative, and real-time data [13]. It can be understood as a continuation of old myths of calculability in risk management [14] and also as reinvigorating them through the promise of big online data [15].

An example of a provider of such risk analytics suites is the Austrian company Prewave [16]. They promise to aid analysts in anticipating all kinds of risks that can disrupt supply chains and, more recently, also compliance with new supply chain laws that demand more visibility. Their tools are based on publicly available data like social media posts, which resulted in them promoting their product at some point as a “shitstorm insurance” [16] able to anticipate emerging grievances. Beyond the detection capabilities of Prewave, some machine learning-powered tools in this space promise sophisticated analysis of social media posts. For example, the Australian company Fivecast promises to detect affective language and emerging social networks, which are presented as indicative of forming unrest. Its tool also offers to recognize objects/faces in pictures posted on social media to enable search at scale [3]. These new approaches both introduce new regimes of managing risk and also continue old logics.

These AI tools tend to situate risk in entities like areas, suppliers, and workers [3] perceived as interchangeable or controllable instead of mainly examining structural issues like exploitation or insufficient payment. They construct risk from the perspective of a top-tier company in the supply chain, which is mainly concerned with minimizing reputational risk and disruptions to its operations. Thus, these risk categorizations tend to highlight priorities of companies [14]. They have also been advertised as tools to enable the detection of human rights abuses, early communication with protesters before disruptions, and understanding grievances in real-time [2]. However, the effectiveness of such an approach is questionable, as discussed in more detail in prior work [2]. Current incentive structures optimizing efficiency and cost-cutting encourage using such tools as technofixes to curb controversy and continue shifting risk down in the supply chain to marginalized people [17], which can have devastating consequences. For example, areas could be marked as risky due to a history of strong labor movements, which could incentivize divestment and thereby hurt regions [3]. Similarly, suppliers could be marked as risky when workers are in the process of unionizing, which could motivate top-tier companies to replace them to avoid disruption, thereby potentially destroying unionized labor [3].

Since some UDPs use machine learning techniques, such as sentiment analysis, to identify and mark concerns voiced online by workers as indicators of potential risk, they also introduce new logics. They construct risk based on behaviorist ideas [18] since affect, complaint, and collective action are marked as risky. These assumptions also introduce new errors [2] that may negatively impact workers. Various prior studies have highlighted how social media data is limited, messy, and unrepresentative of what’s happening offline [19, 20]. Prominent incidents like the Google Flu failure highlight severe limitations of such technologies based on online data in practice and at scale, [21]. This is an industry-wide problem as many prominent AI products have been called out for misrepresenting capabilities and their tendencies to reinforce inequalities and marginalization [22, 23, 24]. Producing more risk ascriptions at scale through

such tools may only further animate suspicion and cause harm and problems to various actors within supply chain networks.

## 4. Conclusion

The potential for UDPs to be used against worker interests and concerns around misrepresentation puts into question recent efforts by companies to brand UDPs as tools for supply chain transparency to further worker rights as demanded by recent regulations. For instance, Prewave, which states on its homepage that its supply chain risk management products are used by big companies such as BMW and Fujitsu, presents its technology as a way to address new requirements of the German Supply Chain Act [25, 26]. These new regulations may thereby only further normalize new modes of digital surveillance in risk management while discretion of how they are used still largely remains with companies and management personnel. More surveillance technology will not address the underlying issues; it will require political and structural changes.

The many recent supply chain crises destabilize established practices and, therefore, could also be a moment to rethink aspects of the current global supply chain regime [27, 6]. It could be an opportunity for more democratic participation to engage questions about what kinds of supply chains would be desirable and how globalized economies should be organized. Modern supply chains tend to be structurally opaque [28] and hidden as infrastructure in the background [4, 29], but the recent crises bring them to the forefront and channel attention, making them pressing topics that can be discussed more widely. This could aid social movements that have tried to change supply chain regimes for decades and make hidden exploitation of people and planetary resources more visible. This requires organizations, companies, and decision-makers to strive to understand and meet grievances and complaints instead of framing them as mere risks to be averted. A change toward supply chains built on justice, sustainability, and trust will require political pressure and the building of coalitions. This entails worker organizing and solidarity on a global level across supply chains to foster understanding and developing supply chain standards centering worker rights.

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