Making Sense of Labour-Related Risks in Supply Chains:

Decision-Making Under Uncertainty

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Abstract

The purpose of this study is to examine how organisations make sense of and prioritise supply chain risks in uncertain settings, using labour-related risks in multi-tier supply chains as the empirical context. Drawing on bounded rationality and organisational sensemaking, the study explores how organisations deal with risks in contexts with limited visibility, fragmented information, and complex supplier networks. A qualitative research design was adopted using semi-structured interviews with practitioners working in sustainability, procurement, and supply chain risk management.

The findings show that organisations rely extensively on formal systems, indirect information, and standardised procedures to generate workable representations of risk and facilitate decision-making under uncertainty. Additionally, risk prioritisation was not solely shaped by formal indicators, but also by organisational constraints, competing priorities, and interpretive processes. The findings further suggest that formal governance systems enable organisations to manage uncertainty organisationally without necessarily resolving the underlying structural opacity in multi-tier supply chains.

This study contributes to the supply chain risk management literature by demonstrating how governance systems function as organisational mechanisms for simplifying complexity and enabling action under uncertainty.

Keywords: supply chain risk management, bounded rationality, sensemaking, uncertainty, multi-tier supply chains, labour-related risks

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Abbreviations

CSR	Corporate Social Responsibility
SCRM	Supply Chain Risk Management
NGO	Non-Governmental Organisation
ETI	Ethical Trading Initiative
OECD	Organisation for Economic Co-operation and Development

1. Introduction

Production in a large number of industries is increasingly organised through complex, extended, multi-tier supply chains spanning countries and organisational boundaries, increasing both efficiency and risk exposure (Gereffi et al., 2005). While this shift has enabled cost efficiency and flexibility, it has also redistributed production across networks of legally independent organisations and different institutional contexts (Gereffi et al., 2005). Consequently, firms are exposed to various social and operational risks, such as disruptions, reputational damage, regulatory sanctions, and labour-related violations, that originate beyond their direct organisational boundaries (Harland et al., 2003; Craighead et al., 2007).

These risks are illustrated by recent events. Apparel retailers like H&M have been criticised for sourcing from suppliers connected with forced labour allegations in Xinjiang, showing the challenges firms face in identifying labour risks beyond tier 1 (BBC, 2021). In addition, several high-profile legal claims have been initiated against multinational companies, including Tesla, involving allegations of child and forced labour in cobalt mining for global electric vehicle supply chains (Business & Human Rights Resource Centre, 2023).

These instances illustrate how labour-related risks can materialise in upstream tiers of the supply chain beyond the direct visibility of focal firms. Because firms in multi-tier supply chains typically interact only with tier 1 suppliers, labour-related risks arising further upstream can be difficult to detect and manage. Firms are, thus, frequently in a state of structural ignorance, where they lack precise information regarding who their lower tier suppliers are, where they are geographically located, and how labour is deployed beyond the tier 1 level (Villena & Gioia, 2018). Therefore, managers are required to evaluate and prioritise various labour-related risks, such as poor health and safety, violations of labour rights, or long working hours, based on partial, indirect, and disputed information (Locke et al., 2007; Villena & Gioia, 2018).

The choice of which labour-related risks warrant managerial attention is thus subject to uncertainty. Supply chain risk management has consequently become a key managerial concern (Tang & Musa, 2011), with empirical studies showing disruptions can harm profitability, operations, and even share price (Hendricks & Singhal, 2005). Yet research has mostly focused on operational and financial risks such as demand fluctuations, late deliveries, and stock-outs (Harland et al., 2003; Tang, 2006). Traditional risk concepts often fail to capture the social risks embedded in multi-tier supply chains.

To address social risks, firms increasingly deploy organisational processes to enhance control and predictability, such as supplier monitoring, contractual provisions, buffer capacity, and information integration (Tang & Musa, 2011). The prevailing paradigm for managing supply chain risk involves using rational,

analytical models to assess risks that are transparent, easily measured and operationally relevant (Fan & Stevenson, 2018), which assumes that risks can be identified and measured using specific processes (Fan & Stevenson, 2018).

However, labour-related risks in multi-tiered supply chains do not fit neatly into this paradigm, raising questions about the operational prioritisation of risks that are difficult to measure and for which responsibility is ambiguous. Moving further from tier 1 suppliers, supply chain risk visibility decreases dramatically, reducing the ability of companies to assess risk in their supply chains at any tier (Villena & Gioia, 2018). Increased information sharing is insufficient to solve this issue; while managers of companies might have more data, they must still make judgement calls about how to respond to risk with ambiguous risk information and when responsibility is diffuse (Locke et al., 2007; Villena & Gioia, 2018).

These labour-related issues are discussed within social sustainability. The term social sustainability refers to practices that manage the social consequences related to supply chain activities such as those related to labour conditions, human rights and worker health (Awaysheh & Klassen, 2010). It is now increasingly framed as a risk management issue, driven by companies' dependence on extended supply chains and growing pressure to manage risk beyond tier 1 (Montecchi et al., 2021; Both & Wilhelm, 2025). Specifically, companies are now expected to be accountable for managing labour-related risks at the supplier level such as health and safety violations and poor labour standards (Locke et al., 2007; Villena & Gioia, 2018), which is reflected in the growing social sustainability focus in supply chain research (Montecchi et al., 2021).

However, literature suggests that social sustainability poses unique challenges compared with more traditional types of supply chain risk; for instance, the labour standards literature shows that social risks persist even if a firm has policies and monitoring mechanisms in place to manage them (Locke et al., 2007). One possible explanation is that social risk is typically associated with low visibility and high ambiguity, limiting the ability of companies to reliably assess conditions in supplier facilities and subsequently to act on the resulting risk information (Awaysheh & Klassen, 2010).

The challenge goes beyond simply collecting supplier data; social risk managers must also process and act on ambiguous social risk information. In response to social sustainability pressure, firms have implemented a range of governance mechanisms to control and monitor labour-related risk (Locke et al., 2007). Common examples include codes of conduct which define the labour and social standards expected by companies (Locke et al., 2007), as well as social auditing and supplier assessment to monitor compliance. More recently, such social sustainability governance mechanisms have been integrated into human rights due diligence frameworks, reflecting expectations that firms take responsibility for the social conditions across their supply chains (EU, 2024).

While social supply chain governance mechanisms have become more established, prior research has largely overlooked the operational prioritisation of labour-related risks in contexts of limited visibility and sparse information. Indeed, the expansion of formal governance mechanisms is accompanied by a trend toward private and risk-based supply chain governance (Both & Wilhelm, 2025). However, even if firms have such formal governance structures in place, they still require management judgement to determine the severity and urgency of labour-related risks. Operationally, firms have limited visibility into lower-tier supply chain actors and continue to rely on indirect, incomplete risk information (Villena & Gioia, 2018), which means that managerial assessments of labour-related risks are based on partial and conflicting signals about severity, responsibility and how the firm should respond (Locke et al., 2007).

In this scenario, managers are boundedly rational, meaning that the information and cognitive constraints are insufficient to assess all available options, and therefore, organisations cannot make optimal decisions based on complete information (Simon, 1955). Instead, firms rely on routines and proxy indicators to manage complexity (Simon, 1955). In other words, risk prioritisation is contingent on how organisations interpret and make sense of the information when conditions are uncertain. This challenge is intensified in multi-tier supply chains where supply chain partners are disconnected and visibility is restricted to fully understand the labour-related risks in the supply chain.

Firms are increasingly being expected to take responsibility for labour-related conditions in the supply chains over which they do not have authority (Both & Wilhelm, 2025; Villena & Gioia, 2018), and managers must make trade-offs between labour-related issues and other commercial objectives, such as cost reduction, delivery and supply reliability (Wilhelm et al., 2016; Meinlschmidt et al., 2018). Therefore, managers must decide whether these issues constitute significant risks, how urgent they are, and how they should be prioritised relative to other competing business demands.

In addition, supply chains are inherently interconnected and the social risks in one part of the chain can lead to disruption, reputation damage and negative impacts on supply chain continuity and performance elsewhere in the chain (Craighead et al., 2007; Harland et al., 2003; Locke et al., 2007). As such, managers must make decisions in a situation where outcomes are uncertain and the responsibility is unclear. In other words, the question of whether to intervene, escalate, or cut off the supplier requires the interpretative judgements of managers (Weick, 1995; Maitlis & Christianson, 2014).

This lack of a detailed explanation of labour-related risks in supply chains contributes to an inability to effectively manage such risks. Despite prior evidence of how governance structures in supply chains have expanded in the past years (Locke et al., 2007; Montecchi et al., 2021) and how such formal structures have

not resulted in the reduction in social violations (Both & Wilhelm, 2025). There is little evidence of how organisations rely on formal governance systems, indirect risk signals, and heuristic decision-making when managing and responding to social supply chain risk.

How organisations manage social risks beyond formal monitoring and data collection processes remains poorly understood. Moreover, this situation requires that organisations have to deal with uncertainty and conflicting priorities. Understanding how such decisions are made may help explain why labour-related violations continue despite the growing formalisation of supply chain governance. Thus, the case suggests a tension at the core of supply chain risk management: on the one hand, organisations adopt increasingly formalised governance mechanisms and due-diligence systems designed to identify and manage social risks; on the other hand, labour-related risks still remain to be defined by *structural opacity*, indirect responsibility, and limited visibility.

To better understand this tension, the aim of this study is to investigate the ways in which organisations operationalise, interpret and prioritise supply chain risks under conditions of uncertainty and imperfect visibility, with a focus on labour-related risks and multi-tier supply chains. Specifically, the study explores how organisations rely on formalised systems, indirect information and organisational processes as they manage risks that cannot be directly observed. The study is guided by the following research question:

How do companies interpret and prioritise risks in supply chains under conditions of uncertainty?

To address this question, the study adopts a qualitative research method based on interviews with practitioners in supply chain risk management. Drawing on organisational theories of decision-making under uncertainty, it examines how risk information is interpreted, prioritised, and translated into action.

Specifically, the concept of *bounded rationality* (Simon, 1955) is used to study how cognitive, informational and organisational factors influence the assessment and prioritisation of risks in complex supply chains. Furthermore, *organisational sensemaking* (Weick, 1995) is used as an additional analytical lens to study how actors interpret ambiguous information and develop plausible accounts of the risks that surround them. Together these perspectives provide the theoretical framework for understanding how supply chain risks are operationalised and prioritised within organisations in contexts of structural opacity and competing priorities.

Labour-related risks serve as the empirical context to study how organisations approach decision-making under uncertain conditions. The study does not seek to directly evaluate specific governance mechanisms, nor does it measure sustainability outcomes. The empirical focus is on practitioners based in Sweden

working in companies with Nordic and global supply chains. The following chapter reviews the literature on supply chain risk management, labour-related risks, and organisational decision-making under uncertainty, and introduces the theoretical perspectives that guide the analysis.

2. Theoretical Framework

This chapter sets out the theoretical lens through which the study explores organisations' risk interpretation and prioritisation processes under uncertainty. The chapter begins with a discussion of the concept of bounded rationality, and the perspective it offers to understanding organisational decision-making with regard to situations of incomplete information and complexity. Subsequently, the chapter explains the organisational sensemaking framework for understanding how organisations interpret and prioritise risk. These perspectives are discussed in terms of supply chain risk management and the final section draws together the analytical framework of this research.

2.1 Decision-Making Under Uncertainty in Organisations

Organisations often face uncertain situations rather than complete information (Simon, 1955; March & Simon, 1958). In classical decision-making models, individuals are thought of as evaluating all the options available to them and making a choice that results in the maximisation of the expected utility (Simon, 1955). However, organisational theorists have consistently argued that there are limits to these assumptions, as it is rarely possible for decision-makers to optimise (Simon, 1955).

In his foundational work on bounded rationality, Simon (1955) argues that decision-makers operate under cognitive, informational, and temporal constraints that make fully rational optimisation impossible. Due to partial information and limited processing capacity, managers rely on simplified representations of reality and settle for solutions that are satisfactory instead of optimal. This process, which Simon (1955) describes as *satisficing*, reflects the bounded nature of rationality in organisational contexts. In this context, decision-making is less about optimising and more about managing decision complexity under uncertainty.

March and Simon (1958) argue that organisations develop and institutionalise decision structures in order to cope with such complexity and uncertainty. Rather than evaluating all possible options every time, they are dependent on established processes, standardised routines, and selective attention. These structures influence which issues and problems become visible to organisations (March & Simon, 1958). By reducing complex decisions into manageable categories, indicators, and procedures, such structures help organisations to simplify complex decision-making and therefore to make sense of problems, despite limited information and their individual bounded rationality.

These organisational limitations become even more pronounced and are particularly salient in complex, decentralised organisational environments, where decision-making responsibilities are distributed among different actors in the organisation. In such situations, decision-makers are dependent on reports, summaries, proxy measures, and other such standard measures of performance rather than first-hand knowledge (Simon, 1955; March & Simon, 1958). These decision-making structures, then, are not about eliminating uncertainty from the decision process but coping with them and dealing with the information that is available to them through such processes of simplification and information prioritisation.

Gereffi et al. (2005) refer to supply chains (Figure 1) as production networks in which firms are connected to multiple layers of suppliers beyond direct (tier 1) relationships, often extending across several organisational and geographical boundaries. In such structures, bounded rationality is particularly evident. Moreover, these firms have little visibility in terms of suppliers beyond their tier 1 suppliers (Villena & Gioia, 2018).

Research has demonstrated that beyond the first tier, focal companies do not often have complete information about the identities, locations, and labour organisation models of their lower-tier suppliers (Villena & Gioia, 2018; Busse et al., 2017; Hofmann et al., 2018). They are thus the most opaque and, at least on a sustainability level, often the most vulnerable to social and environmental risks (Meinlschmidt, Schleper & Foerstl, 2018).

Because managers cannot systematically evaluate all possible risks or fully predict the outcomes of inaction or action (Simon, 1955; Villena & Gioia, 2018), they need to decide: which matters need attention; what severity of risk requires action; and how to distribute scarce organisational resources among competing matters. Empirical work about managing lower-tier sustainability suggests that firms have multiple ways to respond to lower-tier labour-related issues, each entailing different resource requirements and levels of likely effectiveness: direct collaboration with sub-suppliers; indirect, tier 1-multiplier methods; participating in industry alliances; or low-investment, compliance-focused monitoring (Meinlschmidt, Schleper & Foerstl, 2018; Wilhelm et al., 2016). Besides deciding which threats warrant consideration, there is the choice of what imperfect response requires fewer resources.

In addition, organisations embedded in global supply chains are subject to normative, social and regulatory demands on what responses can be deemed acceptable or, in Simon (1955)'s terms, satisfactory. Thus, stakeholder pressures, public reputational risk, and increasing expectations for due diligence contribute to what constitutes an adequate response to lower-tier risks even in circumstances of incomplete information (Wilhelm et al., 2016; Both & Wilhelm, 2025; LeBaron, 2021). In short, bounded rationality is not a matter of only limited

cognitive capacities in this context; it is also about the norms and institutional demands about what constitutes a good response.

The nature of such decision-making issues can be better understood through the distinction between *risk* and *uncertainty*. According to Milliken (1987), when possible outcomes and their probabilities can be estimated, it is the former; when they are unclear, it is the latter. Multi-tier labour-related matters seem to be much more characterised by the latter, as managers lack reliable data about the prevalence and severity of abuses, as well as the impact of interventions (Busse et al., 2017; Wilhelm et al., 2016), but managers may also experience what Weick (1995) calls ambiguity when information from audits, supplier reports or stakeholders gives rise to insufficient, inconsistent or misleading interpretations of potential risks (Wilhelm et al., 2016).

In addition, Milliken (1987) distinguishes between *state uncertainty* (about the occurrence of an event) *effect uncertainty* (about the impact of an event on the organisation) and *response uncertainty* (about what to do). In multi-tier supply chains, labour-related issues involve all these three elements at once: state uncertainty prevails because firms have little or no knowledge about supplier conditions and may have to rely on auditors' assessments or stakeholder assessments to find out what is happening in the first place (Busse et al., 2017; Villena & Gioia, 2018).

Effect uncertainty arises when managers are unsure about how identified labour violations may impact operations, reputation, employees, or communities throughout intricate value chains (Locke, Qin & Brause, 2007; Hofmann et al., 2018). Response uncertainty occurs since companies have access to many possible options like codes of conduct, sanctions, disengagement, remediation programmes, or audits but are not sure which measures actually improve supplier practices given conflicting regulatory and commercial demands (Wilhelm et al., 2016; Both & Wilhelm, 2025).

These three forms of uncertainty correspond to distinct yet overlapping dimensions of labour-related risk decision-making. State uncertainty affects whether and how possible violations are recognised and defined. Effect uncertainty influences how severity and urgency are determined when decisions are prioritised. Response uncertainty influences how managers evaluate and defend a specific intervention. Together, these various uncertainties affect the framing, prioritisation, and translation of labour-related risk into organisational actions. At the same time, uncertainty in isolation does not determine how managers make sense of ambiguous signals. It is important to look at how organisational actors understand their environment in order to understand how risk signals are rendered meaningful and trigger action in uncertain settings,

setting the grounds for the introduction of organisational sensemaking as a key analytical lens.

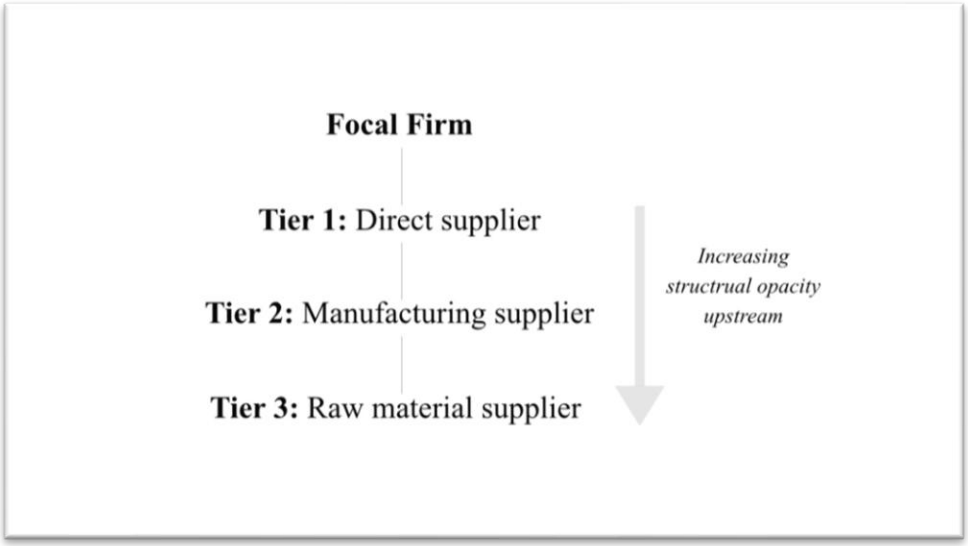

Figure 1. Structure of a multi-tier supply chain. Author's illustration based on Villena & Gioia (2018).

The figure shows how the focal firm has only direct ties to tier 1 suppliers while ties with lower-tier suppliers are indirect. Structural opacity increases upstream, limiting visibility into labour conditions past tier 1 supplier relationships (Villena & Gioia, 2018).

2.2 Organisational Sensemaking: Core Concepts

Sensemaking denotes how organisational actors understand and make meaning in unclear and surprising situations (Weick, 1995). Sensemaking theory does not assume that risks are identified and objectively evaluated; instead, it suggests that organisational actors interpret situations through continuous processes of meaning-making. As actors encounter situations for which existing routines provide no clear instructions, they will ask themselves the following questions: What is going on? What does it mean? What should we do? (Weick, 1995). These are crucial questions in decision-making under uncertainty because action depends on the understanding of the situation, not just the information available.

Weick (1995) identifies multiple interrelated properties of sensemaking that are particularly relevant for examining how managers understand and prioritise labour-related risk signals. First, sensemaking involves *cue extraction.* Organisational actors are not able to comprehend all information available to them. Some signals are picked up and understood to be meaningful while others are disregarded (Weick, 1995). In multi-tier supply chains marked by structural

opacity, managers often base decisions on indirect information from audit reports, stakeholder complaints, certifications, or supplier self-assessments (Locke et al., 2007; Villena & Gioia, 2018). Given that information is often incomplete and sometimes disputed, whether something constitutes a "risk" will depend upon which cues are selected and understood to be important. Consequently, the prioritisation of labour-related issues is founded on an act of selective attention. To cope with complexity and render risk assessment feasible, organisations utilise selected cues and standardised indicators.

Second, sensemaking emphasises *plausibility over accuracy*, as organisations will seek explanations that are 'good enough' to facilitate collective action as opposed to those that are complete and accurate (Weick, 1995). This focus on plausibility implies the need for action despite uncertain information. Managers may regard some issues as plausible or sufficiently alarming to require action even if the evidence is lacking, as decisions are based on interpretations perceived as reasonable and feasible, rather than factually verified.

Third, sensemaking is inherently social in nature, as interpretations are created through interaction, discussion and negotiation among organisational members (Weick, 1995; Maitlis & Christianson, 2014). Risk signals do not present themselves in an explicit manner and may be construed in various ways depending on organisational function and role. Across the supply chain environment, sustainability professionals, purchasers, compliance officers and top management may perceive the same labour-related issue differently, depending on their interest in cost efficiency, reputation, the supplier relationship or the availability of the product (Wilhelm et al., 2016; Meinlschmidt et al., 2018). Prioritisation decisions are thus, therefore, not simply technical judgments, but depend upon various interpretations and priorities.

Fourth, sensemaking is based on organisations' understanding of their role and responsibility in the supply chain (Weick, 1995). In multi-tiered supply chains, responsibility is often unclear (Villena & Gioia, 2018), which means organisations may vary in how they construe their responsibility, urgency and response to labour-related risks.

Finally, Locke et al. (2007) demonstrate that interventions and responses may themselves alter what is observed and managed. In effect, organisations' interventions, including audits, control systems, and corrective action plans, determine which data are accessible and which problems attract attention. Thus, formal governance arrangements constitute risk identification and interpretation within organisations.

Recent empirical studies support the utility of this perspective for understanding sustainability challenges in complex supply chains. Preuss et al. (2024) analyse how actors in different positions of an agri-food multinational company make sense of farmer livelihood issues, leading to diverse types of

response strategies. Similarly, Wade & Griffiths (2022) analyse how managers make sense of climate change, demonstrating that perceptions of climate risk and sustainability influence managers' action and non-action. These studies indicate that sustainability problems are made real by processes of interpretation, negotiation and action, rather than as a result of objective problem identification.

This understanding provides a useful theoretical foundation for analysing how labour-related risks are prioritised under uncertainty. According to these characteristics of sensemaking, organisational decision-making is more complex than what may be seen as a result of a purely rational analysis. Organisational decisions concerning labour-related risks involve the construction of risk signals through noticing, sensemaking, prioritisation and action. This makes sensemaking relevant as a theoretical lens to examine how managers construct the severity, urgency, and responsibility associated with the prioritisation of labour-related risks in multi-tiered supply chains.

2.3 Sensemaking and Risk Prioritisation under Uncertainty

Maitlis and Christianson (2014) point out that sensemaking is useful in situations where organisations must prioritise risks in the presence of ambiguous information. These risk signals do not tell managers directly how severe the risk is, who is responsible for it, or what they should do. Managers must make sense of the risk signals and develop plausible interpretations that enable them to make a judgment about whether and how to act (Weick, 1995). Organisations need simplified and selective interpretations in order to decide which risks are "serious enough" to require action. Therefore, risk prioritisation is a technical and interpretive process that relies on the framing and discussion of the issues at hand.

According to sensemaking theory, organisational actors are active sensemakers; they interpret ambiguous situations rather than react to cues and stimuli (Weick, 1995). Therefore, the decision to act on a given risk signal is not an automatic consequence of the signal itself, but depends on how that signal is interpreted by actors in a given organisational situation. Uncertainty derives not only from incomplete information, but also from the challenge of determining the significance, seriousness, and consequences of ambiguous risk signals (Maitlis & Christianson, 2014).

Maitlis and Christianson (2014) distinguish between the triggers, processes, and outcomes of sensemaking. Triggers are the stimuli that disrupt actors' taken-for-granted assumptions and make them question what is happening. Processes are ways in which meaning is constructed through interpretation and interaction. Outcomes are the decisions and actions that follow from interpretations. I will mainly focus on these processes of sensemaking; that is, how managers make

sense of and frame ambiguous labour-related risk signals and how sensemaking processes contribute to decisions about risk prioritisation and interventions.

An interpretive dimension is particularly important in risk situations. Weick (1988) points out that, in a crisis situation, actors often must act before they have all of the information, such that their own actions also become part of the sensemaking processes. The response will depend on whether the organisational actors perceive an issue as an urgent threat, a manageable problem, or a trivial concern, and in the context of labour-related risk signals, this will determine whether an identified labour violation is treated as a systemic issue requiring escalation, as a compliance issue requiring remediation, or as a minor issue requiring monitoring only. Responses will also depend on the organisational categorisation of an issue as part of a firm-level system or routine.

This point also complements the bounded rationality argument discussed above: managers in multi-tier supply chains work in a context of state, effect and response uncertainty (Milliken, 1987). These uncertainties do not simply limit the availability of information, they also make information and knowledge ambiguous. Managers have to judge the credibility of available signals and make judgments about the severity of identified risks and the appropriateness of various response options in light of conflicting commercial and reputational demands (Villena & Gioia, 2018; Locke, Thoburn, & Haslam, 2007; Wilhelm, S., Seuring, & Sarkis, 2016). While the literature on supply chain risk management has generally focused on analytical approaches to identify and assess risks, the notion of sensemaking allows us to understand how organisations interpret, simplify and prioritise ambiguous risk signals in the presence of uncertainty.

Framing is particularly important. As Kaplan (2008) shows, it is the framing and presentation of strategic issues in organisational discussion, rather than their inherent characteristics, which will determine which issues will receive managerial attention. Different frames lead actors to prioritise issues even when they are based on similar underlying conditions. For labour-related risk signals, whether to prioritise labour-related risks or operational risks, or risks to supply continuity or reputation, will depend on both objective measures and on how labour-related risks are framed in relation to other risks in these areas. How labour-related risks are framed in relation to other kinds of risks in the organisational context and whether such framing emphasises the potential harm to the workers, the potential reputational damage, the loss of supply chain continuity, or the loss of profit will influence whether such risks receive attention.

This literature suggests that risk prioritisation in multi-tier supply chain governance cannot be understood as merely a technical evaluation exercise. The prioritisation of risks requires managers to make sense of the situation to construct the severity of the risks, their responsibility, and the appropriate interventions to act upon them in situations of uncertainty. A sensemaking perspective thus

focuses the analysis on how ambiguous risk signals will be interpreted, simplified, prioritised and put into action.

2.4 Applying Sensemaking to Labour-Risk Decision-Making in Supply Chains

Although sensemaking has been utilised to study crises, strategic change, and CSR (Basu & Palazzo, 2008; Whiteman & Cooper, 2011; Sonenshein, 2007), its utilisation in labour-related risk decision-making in multi-tier supply chains is scarce. However, the nature of labour-related risks in extended supply chains mirrors the uncertain contexts for which organisational sensemaking and bounded decision-making are most applicable. In structurally opaque and indirectly responsible supply chains (Villena & Gioia, 2018), managers often use audit reports, certifications, or risk scores aggregated to evaluate labour conditions (Locke et al., 2007). Since the information rarely reveals actual conditions, managers must decide if the reports or certifications are credible, and how serious or urgent labour conditions are. Risk prioritisation therefore depends on how organisations deal with imperfect information (Weick, 1995; Maitlis & Christianson, 2014).

From a sensemaking perspective, labour-related risks must be perceived as significant enough to warrant attention, before the organisational response is triggered (Weick, 1995). Responses do not simply follow the interpretation of the risk, but also contribute to the future understanding of the risk. As Weick (1995) contends, environments are created through action. Audits, monitoring, and corrective action mechanisms therefore create the conditions by which some risks are observed, measured, and prioritised within the organisation. Whether a reported violation is considered a systemic problem, a controllable noncompliance case or less of a concern is dependent on the organisational context.

In supply chains, audit results, supplier reporting, and external assessments may convey ambiguous and inconclusive evidence of labour conditions (Villena & Gioia, 2018). Thus, decision-makers are required to make a judgment on how to evaluate risk information, whether a reported violation is a systemic problem or an isolated event, and whether to respond as an indicator of responsible behavior or supply disruptions (Weick, 1995; Wilhelm et al., 2016).

This perception affects both the willingness to act and what actions are taken. Sensemaking takes place in firm-level and commercial structures. While labour-related risk information may be received as a signal, it competes with other concerns such as cost, delivery performance and supply chain disruptions (Wilhelm et al., 2016; Meinlschmidt et al., 2018). Multi-tier supply chain research has shown that tier 1 suppliers have a “double agency” function, responding to buyers’ sustainability demands and cost pressure from upstream suppliers

(Wilhelm et al., 2016). Sustainable engagement also comes with substantial coordination and monitoring cost for suppliers in lower tiers (Meinlschmidt et al., 2018). Thus, the prioritisation of labour-related risks depends on how risks are evaluated in relation to other strategic concerns.

Most supply chain research has focused on formal governance mechanisms and processes, such as corporate codes of conduct, audits or due-diligence systems (Locke et al., 2007; Busse et al., 2017; Montecchi et al., 2021; Both & Wilhelm, 2025). Research has documented the increased implementation of monitoring structures, and continued occurrences of labour violations in supply chains, but these studies offer limited insight into the organisational processes by which organisations interpret, operationalise, and prioritise risk information (Ford & Nolan, 2020; LeBaron, 2017). Thus, much of our knowledge on labour-related risk management in supply chains concerns the structural context of decision-making. There is little evidence on how managers perceive, assess, and justify labour-related risk management interventions, based on ambiguous risk information.

Adopting a bounded rationality and sensemaking perspective shifts focus to the processes of simplification and prioritisation of ambiguous risk information at the operational level. This thesis does not discuss which monitoring tools firms have used. Instead, the focus is how practitioners select cues, evaluate risk severity, assign urgency, and justify intervention. This thesis is based on the premise that managers seek to make reasonable and workable decisions under conditions of bounded rationality, relying on simplified representations of complex environments when assessing and prioritising risks. By using a sensemaking perspective to understand how managers make sense of risk signals and organise them for prioritisation purposes, this study sheds light on the organisational processes of prioritising labour-related risks.

Bromley and Powell (2012) argue that when organisations face high levels of uncertainty and strong institutional pressure, formal compliance may become loosely coupled to actual behavior. *Means-ends decoupling* indicates the coexistence of formal governance systems with actual behavior. A bounded rationality and sensemaking perspective explains the decoupling of formal compliance systems by explaining how interpretation and prioritisation affect the perception and management of labour-related risks in multi-tier supply chains. Prioritising risks based on how they are perceived, and acting upon risks that are perceived as urgent and severe, may therefore explain the coexistence of formal compliance structures and labour violations in practice. This thesis therefore contributes to current knowledge and the understanding of how decisions related to labour-related risks are made in multi-tier supply chains.

2.5 Analytical Framework for the Study

This study investigates how organisations navigate supply chain risks when visibility is low and information is scarce. The analytical framework is anchored in the dual theoretical perspectives of bounded rationality (Simon, 1955) and sensemaking (Weick, 1995; Maitlis & Christianson, 2014).

The framework is based on the idea that organisations operate within multi-tier supply chains with structural complexity, fragmented information, and indirect control over upstream suppliers (Gereffi et al., 2005; Villena & Gioia, 2018). In these settings, organisations often lack direct visibility into supplier practices and must assess risks using partial or indirect information. At the same time, commercial pressures, regulatory expectations, and sustainability demands influence how risks are prioritised within organisations.

Under these conditions, an organisation often cannot directly observe what its suppliers are doing. Hence, in order to manage risk, it must rely on a range of information sources, which may include incomplete and indirect knowledge of the risk in question. In the context of this complexity, an organisations' decisions to prioritise some risks over others will be influenced by various other factors, including commercial demands, compliance, or sustainability objectives.

Given these conditions and organisational challenges, bounded rationality suggests that managers will simplify their decision-making by relying on routines, rules of thumb, or heuristics (Simon, 1955; March & Simon, 1958). Risk managers must thus rely on a range of simplifying tools (e.g. audits, certifications, supplier evaluations, and other indicators) as proxies for assessing the risks at hand. The organisational response to risk will not only depend on how they are framed, but also on how they are interpreted. Sensemaking emphasises the importance of how actors selectively attend to and interpret signals (Weick, 1995). Risk prioritisation will be shaped by the degree to which the identified risk is seen to connect with other corporate issues, including operational priorities, reputation management, resource availability, and governance mechanisms.

This perspective thus draws the attention to four main organisational processes: the selection of risk information, the simplification of risks, prioritisation in light of other issues, and the evaluation of potential responses. The extent to which these four processes unfold will influence how an organisation responds to risk and whether it takes a range of remedial actions (e.g. additional monitoring, supplier engagement, corrective actions or disengagement) or remains in a state of reactive inaction.

The framework further assumes that formal governance systems are not always perfectly aligned with actual risk management actions undertaken by the firm, such that risk management systems can be developed while the organisation may still lack detailed knowledge of what is happening in upstream areas of the supply chain. In this respect, the analytical framework directs the attention to what an

organisation is doing rather than focusing on risk as an objective entity or on how risks can or cannot be fully managed through governance systems alone.

Figure 2 provides a graphic representation of the key elements of the proposed analytical framework. The framework shows how the organisational context influences the processes of interpreting, simplifying, prioritising, and evaluating alternative responses to risks and challenges in conditions of uncertainty and how this may affect whether risk management actions are taken and what type of actions. The framework provides the foundation for addressing the study's research question: How do companies interpret and prioritise risks in supply chains under conditions of uncertainty?

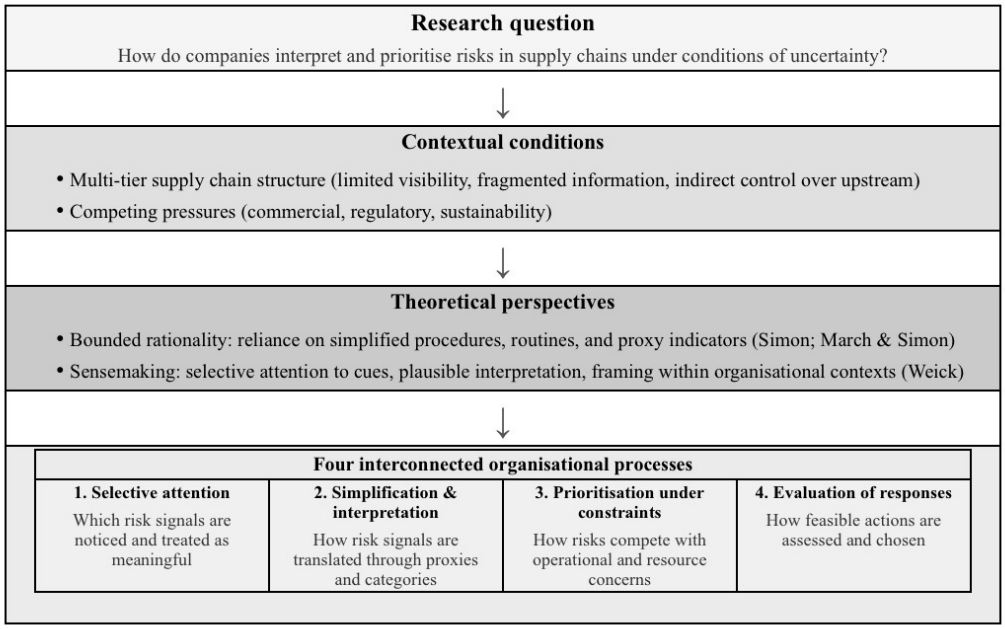

Figure 2. Analytical framework for organisational risk interpretation and prioritisation under uncertainty.

Understanding how these processes unfold requires attention to the experiences and perspectives of managers involved in risk-related decision-making. This warrants an in-depth investigation of how practitioners interpret and prioritise supply chain risks under uncertainty. The following chapter outlines the methodological approach adopted to examine these processes empirically.

3. Methodology

This chapter outlines the methodological approach used to examine how organisations interpret and prioritise supply chain risks under uncertainty. The chapter covers the research design, data collections methods, analytical approach, ethical considerations, and finally the limitations of the study.

3.1 Research Design and Approach

A qualitative research design is utilised in this study to investigate how organisations interpret and prioritise supply chain risks in uncertain contexts. Given the study's focus on the way in which managers interpret and make meaning of ambiguous information, a qualitative research design is considered the most appropriate as it allows for a deep understanding of the thought processes, judgements and interpretations that inform decision-making (Bell et al., 2019).

The research is based on an interpretivist and constructionist worldview, where social reality is the result of the social interaction (Bell et al., 2019). That is, assessments of risk are constructed on the interpretation of managers about the information they have available. It is not a direct reflection of the outside reality. This perspective is in line with organisational sensemaking which focuses on the way in which social actors make meaning of ambiguous cues and uncertainty in situations (Weick, 1995; Maitlis & Christianson, 2014). These perspectives frame supply chain risk as something that can be interpreted, rather than something objective.

The research is also based on the concept of bounded rationality (Simon, 1955), which focuses on the limitations of actors to fully understand the situation and make optimal choices. Bounded rationality refers to cognitive and informational constraints, and that decision-makers need to operate with simplified representations and selective attention to make decisions. This is in line with the theory of sensemaking. The combination of the two perspectives provides the basis for the study by framing supply chain risks as something that can be interpreted and prioritised at ground level.

The study follows an abductive approach to research. Abduction involves a back and forth movement from the data to the theory and the data being used as a means to develop the theory further and refine existing theoretical ideas instead of testing hypotheses (Mantere & Ketokivi, 2013). An abductive approach was considered the most appropriate because the study sought to investigate how organisations interpret and prioritise risk under uncertainty. The study was initially based on theoretical concepts of bounded rationality and organisational sensemaking, while being open to patterns and themes that emerged from the data. This means that the interview questions were shaped by the theoretical ideas,

but at the same time the analysis was able to develop a nuanced understanding of what the respondents said. The study involved a continuous movement from the interview data to the theoretical ideas and the use of theory to understand the data during the process, which allowed the research to develop in a more focused direction.

3.2 Research Strategy

This study adopts a qualitative approach to research, specifically in the form of a series of semi-structured interviews conducted with practitioners who work in supply chain, procurement and sustainability related positions. Semi-structured interviews were considered suitable because they provide interviewees with opportunities to describe in their own words how supply chain risk is understood and managed. The interview questions were not intended to dictate the responses but rather offer guidance to the discussion (DeJonckheere & Vaughn, 2019), and the semi-structured approach gave the researcher room for follow-up questions and flexibility based on interviewee's responses.

The study does not focus on a single organisation but rather draws on insights from practitioners across various organisations and different industry sectors. The inclusion of respondents that hold varying professional roles enabled a diverse perspective on how risk in supply chains is understood, for example through the lenses of sustainability, procurement and operations. This allowed the study to gain knowledge on both general patterns and variations in understanding and managing risk. A broad sampling approach reduced the risk that findings reflected a single organisation. This can be seen as strengthening the robustness of the findings by reducing the likelihood that the results reflect the practices of a single organisation or department.

Finally, the research strategy is exploratory in nature in that it is not meant to confirm or test existing assumptions about risk management but rather develop analytical insight into how organisations make decisions regarding the risks in their supply chains. Sætre and van de Ven (2021) suggest that the abductive approach can be useful in exploratory qualitative research, which is well suited for studying organisational processes where uncertainty and incomplete knowledge exists and where theories still have to be developed or have not yet been fully explored in the particular context under study. In line with this exploratory aim, the current study utilises both interview data and secondary data to inform understanding of supply chain risk interpretation and management.

3.3 Data Collection Method

The empirical material for this study consists of four semi-structured interviews with practitioners working in supply chain, procurement, and sustainability related roles. These interviewees were from different industries and organisational contexts, allowing the study to capture several perspectives on its topic. The study used purposive sampling for recruitment of participants with experiences in supply chain risk management.

Interviewees were found through LinkedIn and contacted directly through private messages on the basis of their experiences with supply chain, procurement or sustainability related work. The potential interviewees were given a description of the research, assured of anonymity, and provided with an estimate of how long an interview would last. Some interviewees asked to receive a short excerpt from the interview guide to give them an idea of the question types. Some potential interviewees did not respond or were not able to participate in the data collection period, others declined due to their relatively low level of experience. Four interviews were deemed appropriate and sufficient to provide an understanding of recurring themes in the ways that practitioners interpret supply chain risks and prioritise them under uncertainty (Vasileiou et al., 2018), given the narrow and theoretically guided nature of the research question.

The interviews were conducted digitally via Google Meet. They took between 40 and 75 minutes, with three interviews being conducted in Swedish and the fourth in English to allow for the interviewee to use their own language. Recordings were made from interviews with permission of the interviewee and later transcribed in Klang.ai. Subsequently, the relevant quotations for the thesis were translated into English from Swedish by the author. Thus, any errors in the translations are the author's responsibility.

The interview guide (Appendix 1) followed the key themes arising from the theoretical framework. More precisely, the concepts of the framework were operationalised in questions related to the identification and awareness of risks, information interpretation and risk assessment processes, prioritisation of risk issues and decision constraints, and evaluation of potential response options. This ensured that the collected empirical data was relevant for answering the research question and the theoretical framework, while the interviewees were given enough room to answer the questions according to their own understanding.

The interview themes corresponded with the different processes identified in the framework as they related to the identification of labour-related risks (cue extraction), interpretation of risks signals (sensemaking), the impact of uncertainty and limited information on decision making (bounded rationality), the prioritisation of risks, and decisions on appropriate response options. The interview guide was structured after the theoretical framework as well as the research question. Some modifications were made in order to clarify questions for

the interviewee or to encourage more detailed answers (DeJonckheere & Vaughn, 2019). A formal pilot interview was not held prior to the interviews.

The interview participants were selected based on their experiences with supply chain management, sustainability, procurement, and supplier related risk assessment based on the research question and focus on organisational decision-making in uncertain environments. This selection let the interviewees draw on actual professional experience. The inclusion of different organisational functions of interviewees also allowed for capturing several perspectives on the management of risks and industry contexts. Table 1 summarises the interviewees included in this study, their roles, and industry. In order to ensure confidentiality of the informants in the thesis, all interviewees are anonymised and referred to as interviewee 1 to 4.

Table 1. Interviewee overview.

Interviewee	Role and Years of experience	Industry
Interviewee 1	Supply chain manager, 4 years	EV infrastructure
Interviewee 2	Procurement Analyst, 3 years	Hospitality & tourism
Interviewee 3	Team Lead, Supply Chain, 5+ years	Energy
Interviewee 4	Sustainability and Supply chain specialist, 5+ years	Consulting, sustainability tech

In addition to the interviews, secondary data was used to contextualise and support the empirical findings. Relevant reports and guidance documents were selected following the initial review of the interview material. This included reports and guidance documents related to supply chain due diligence, transparency, and sustainability governance from four different organisations: OECD, Ethical Trading Initiative (ETI), amfori, and Better Cotton.

The secondary sources were selected based on their relevance to supply chain due diligence, transparency, traceability, visibility, and supply chain governance, which were central themes in both the theoretical framework and the interview material. The documents were identified through references in sustainability and due diligence discussions, as well as through organisations frequently cited within

supply chain sustainability research and industry practice. Table 2 provides an overview of the secondary sources and their main focus.

Table 2. Overview of secondary sources.

Source	Type of source	Main focus
OECD (2018)	Guidance framework	Due diligence and responsible business conduct
ETI (2024)	Guidance report	Human rights due diligence in challenging contexts
ETI (2025)	Industry report / publication	Supply chain visibility and upstream risks
amfori (2024)	Annual report	Supply chain monitoring and sustainability challenges
Better Cotton (2025)	Annual report	Traceability, transparency, and implementation challenges

The secondary sources complemented the interview material by providing additional perspectives on supply chain due diligence, transparency, and sustainability-related challenges. To further ensure the relevance of the sources, only recent publications between 2018 and 2025 were included.

3.4 Data Analysis

The empirical material was analysed using thematic analysis. This approach was considered appropriate as it enabled the identification and interpretation of recurring patterns across the interview material while remaining flexible enough to capture variations in the interviewees' answers (Byrne, 2022). All recordings were transcribed and reviewed multiple times to develop familiarity with the material. The analysis began with repeated readings of the transcripts, where recurring topics, reflections, and expressions related to uncertainty, risk interpretation, and decision-making were identified.

The next stage involved manually coding the material by assigning labels to sections of text connected to the research question and theoretical framework. Some initial codes were informed by concepts derived from the theoretical framework, including bounded rationality, uncertainty, cue extraction, sensemaking, and risk prioritisation. The analysis remained open to new themes and patterns emerging from the empirical material. This process involved moving iteratively between empirical observations and theoretical concepts, in line with the abductive research approach.

During the coding process, separate documents were used for each interview transcript, where recurring topics, reflections, and potential themes were highlighted and annotated manually using colour coding and coding notes. Recurring codes and patterns across interviews were subsequently gathered into a separate analytical document to compare similarities, identify overlaps, and cluster related codes into broader analytical themes. This process of moving from more detailed empirical observations to broader analytical themes is consistent with recommendations for systematic qualitative analysis in organisational research (Gioia et al., 2013). This iterative process contributed to the development of the final themes presented in the empirical findings chapter.

For instance, several interviewees described relying on certifications, supplier evaluations, country classifications, and risk-scoring systems when assessing supply chain risks. Initially, these observations were coded separately under labels such as “certifications”, “risk scores”, and “country-based assessments”. Nevertheless, through repeated comparison across interviews, it became apparent that these practices shared a common function: they enabled organisations to assess risks indirectly through standardised indicators rather than direct observation of supplier conditions. These codes were therefore grouped into the broader analytical theme “Reliance on formal systems and proxies”, which became one of the central findings of the study. This illustrates how the analysis moved iteratively between empirical observations and theoretical concepts to develop broader analytical themes.

After the initial coding and theme development, the secondary sources were revisited to compare emerging interview themes with broader industry discussions and policy perspectives. The documents were reviewed comparatively to understand whether the interview patterns were reflected, qualified, or challenged in broader discussions on supply chain governance and due diligence. While the documents largely corroborated the interview findings, they also helped identify implementation tensions and structural constraints shaping how supply chain risks were discussed in practice. The documents functioned as a contextual and comparative analytical lens throughout the interpretation process. They were not coded as a separate dataset. The use of multiple data sources also enabled a degree of triangulation by allowing interview findings to be interpreted in relation to existing industry and policy perspectives.

Figure 3 provides an overview of how the thematic analysis progressed from illustrative initial codes to sub-themes and broader analytical themes. As Gioia et al. (2013) argues, presenting the analytical structure in this way increases transparency. By illustrating how broader themes were developed from recurring patterns identified in the empirical material, consistent with recommendations for qualitative rigor in organisational research. The figure summarises the analytical process described above and illustrates how recurring patterns identified across

the interviews were grouped into the five main themes presented in the empirical findings chapter.

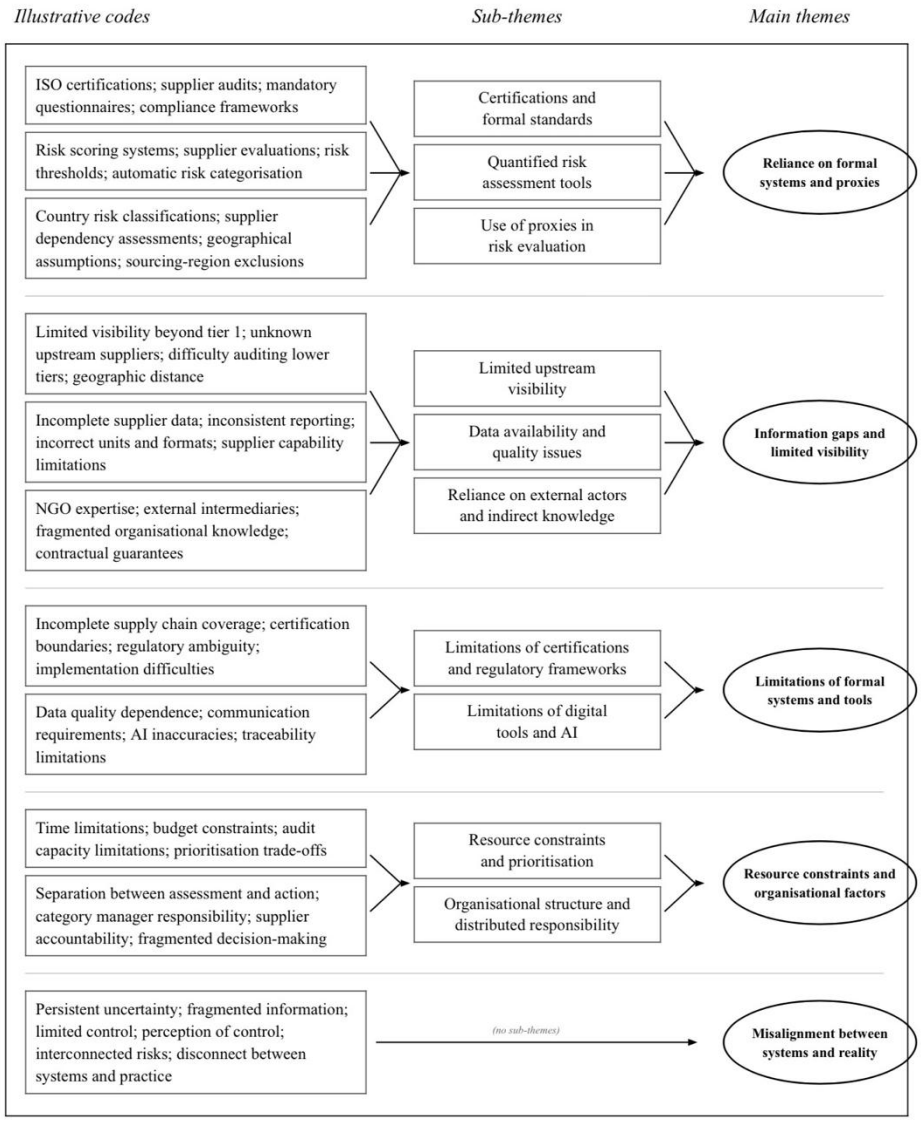

Figure 3. Development of analytical themes from coded interview material.

As shown in Figure 3, the analysis moved from specific observations identified in the interview material towards broader analytical themes through an iterative process of coding and comparison. The figure illustrates how related codes were categorised into sub-themes and thereafter synthesised into the five bigger themes. While most themes were developed through sub-themes, the pattern labelled *Misalignment between systems and reality* emerged as a broader analytical theme directly from the coded material.

3.5 Trustworthiness and Research Quality

In qualitative research, the concept of trustworthiness emphasises the importance of credibility, transparency, and consistency (Bell et al., 2019). To bolster the trustworthiness of this investigation, a number of steps were taken to ensure transparency in the analysis, document coding decisions systematically, and use multiple data sources for contextual comparisons (Nowell et al., 2017).

The credibility of this study is underlined by the decision to select respondents with professional expertise among the spheres of supply chain, procurement, and sustainability. The use of semi-structured interviews allowed respondents to provide extensive reflections and examples pertaining to risk management and organisational decision-making, while the interview guide followed the research question and theoretical framework in a way that supported a coherent link between the empirical investigation and its conceptual underpinning.

The transparency and consistency of this study were further strengthened by providing explicit information on the research design, the selection of respondents, the data collection process, and the analytical approach. Throughout the analysis phase, coding notes and observations of recurring themes were systematically documented within both the interview transcriptions and the analytical material, to track themes as they evolved, allow for the interpretation of themes to vary throughout interviews, and provide consistency in the development of themes in the final chapter of empirical evidence.

Further, to support transparency and to explain the basis of interpretations in empirical evidence, the findings chapter includes a number of direct quotations from the interview material. The fact that this study is informed by an interpretivist and constructionist research perspective means that the findings are to a large extent influenced by the researcher's own interpretations, with theoretical perspectives and preconceived assumptions shaping the interpretive process. The researcher's background and interest in the subject matter, specifically in sustainability and supply chain management, therefore have shaped the interpretation of findings, and also informed the way interview questions were framed. Continuous reflexivity during the analysis ensured that assumptions of the researcher were considered throughout the interpretive process.

3.6 Ethical Considerations

Various ethical considerations were taken into account throughout the research process, particularly since qualitative interviews and reflections form the basis of this investigation (Bell et al., 2019). Participation in the study was voluntary, and all interviewees were informed about the purpose of the study prior to the

interviews. Participants gave informed consent for participation, and they were presented with the right to withdraw at any time.

The study did not require formal ethical approval, according to institutional guidelines. All interview recordings and transcriptions were treated confidentially and stored in a secure manner. Transcription was completed through the AI-based tool Klang.ai and all interviewees were informed of this prior to the interviews. Since the interviews primarily covered professional experience and organisation-related issues and not sensitive personal topics, the researcher also reviewed all transcriptions to verify the integrity of transcriptions and remove identifying data when necessary.

In order to maintain confidentiality, interviewees have been given anonymous titles throughout the thesis, and no company names or personal identifying details are disclosed. In addition, to reflect the nature of interpretivist research, the analysis is presented with a concern for presenting interviewees' reflections and experiences as faithfully as possible.

3.7 Limitations

The interpretation of findings should also consider certain limitations of the study. First, the study is based on a relatively small number of interviews, thus limiting the depth of perspectives included in the investigation, with findings in this thesis not aimed at providing statistically generalisable results, but providing analytical conclusions.

Second, the study is based on self-reported accounts of practitioners, meaning that this study cannot provide direct insights into how organisations work in practice or the actual state of the global supply chain, but instead how participants describe and interpret their risk management processes. Interviewees are also mostly from a Swedish or Nordic perspective, meaning that the understanding and prioritisation of sustainability and supply chain risks are somewhat influenced by this context.

Third, while the investigation primarily focused on labour-related risks, the theoretical framework also covers all types of supply chain risks, and the findings also developed towards the broader subject area of supply chain risks. Although interviewees covered a range of different types of risks in practice, it also implies that labour-related risks were not the focal point of the investigation throughout the entire data collection process.

Finally, as the interviews were all in Swedish and then later translated, there may be nuances lost in the translation process. With the methodological approach of this investigation now presented, the following chapter will provide the empirical findings gathered in relation to the interview material as well as existing secondary data sources.

4. Empirical Findings

The interviewees described the processes and methods they use to identify, make sense of and manage supply chain risk in their organisations. Overall, risk in the interviews was not described as something directly visible but was identified in more abstract ways, using formalised systems, proxies and organisation in an uncertain environment.

The interviews focused heavily on the function of certifications and risk assessment instruments, as well as the difficulties encountered with limited visibility and resources as well as complex supply chain structures. The narratives went beyond these practices to generalise about organisations handling uncertainty, interpreting fragmented knowledge, and ranking risks in their everyday practice. Secondary data was used to support the interview data and put the findings into a larger picture. The findings are presented under five themes: reliance on formal systems and proxies; information gaps and limited visibility; limitations of formal systems and tools; resource constraints and organisational factors; and misalignment between systems and reality.

4.1 Reliance on formal systems and proxies

The interviews show that organisations rely extensively on formal systems to assess and manage supply chain risks. Risk is not evaluated through direct observation, but through certifications, structured tools, and predefined criteria that enable organisations to interpret complex and uncertain environments.

These systems standardise risk assessment and create consistency across suppliers. They also shape how risks are understood and prioritised in practice. Across the interviews, this reliance is reflected in the use of certifications, quantified risk models, and simplified proxies such as country of origin or supplier dependency. Formal systems not only support risk assessment but actively shape how risk is identified and evaluated inside organisations.

4.1.1 Certifications and formal standards

Certifications did more than verify compliance. They replaced direct knowledge with standardised signals that managers could trust at a distance. These were presented as mechanisms that allow organisations to assess compliance without direct verification.

> We do background checks and send out mandatory questionnaires just to check that there is nothing going on in the background. […] and then you have many certificates, like ISO, that you can always check. (Interviewee 1)

Certifications function as trusted signals of supplier reliability. Their importance is particularly evident in contexts where suppliers operate in highly regulated regions. Several interviewees described suppliers from the European Union and Nordic countries as *"low risk"*, with one interviewee noting that such suppliers are *"usually approved"*. Institutional context together with certifications, contributes to predefined risk perceptions.

At the same time, this reliance is shaped by practical constraints. Interviewees emphasised that it is not feasible to verify all suppliers and sub-suppliers directly. As a result, certifications become substitutes for direct observation, allowing organisations to manage uncertainty through externally validated standards.

> We don't have enough time or information to verify everything, so you must rely on frameworks and audits. (Interviewee 3)

Certifications are therefore not only used to verify compliance, but also to reduce uncertainty by replacing direct knowledge with standardised signals.

4.1.2 Quantified risk assessment tools

In addition to certifications, one interviewee described the use of quantified tools to assess supplier risk. These tools translate complex and multidimensional risks into measurable indicators that can be processed within organisational systems.

> We use an Excel sheet that calculates a risk score. A score of three is considered high risk, and then we define actions based on that. (Interviewee 2)

However, the interpretation of these scores and decisions regarding supplier engagement were often handled by other organisational actors, indicating a separation between risk calculation and operational response. Risk is operationalised through scoring systems that link predefined thresholds to specific actions. Suppliers are evaluated across categories such as financial, operational, and CSR risks, indicating a structured approach to organising risk-related information. Some quantified assessment systems also relied on predefined categorisation logics rather than case-specific evaluation.

> Suppliers with high dependency levels automatically get a higher risk score, regardless of direct verification of supplier conditions. (Interviewee 2)

Risk classifications were partially embedded within the structure of the assessment system itself, reducing the role of direct judgement in initial risk categorisation. By converting qualitative assessments into numerical values, these tools enable comparability and scalability across large supplier bases. However, they also transform risk into something that can be processed through

standardised procedures. Overall, risk assessment is not only about identifying risks, but about translating them into formats that align with systems and decision-making processes.

4.1.3 Use of proxies in risk evaluation

A further dimension of this theme is the use of proxies to simplify risk assessment. Interviewees described how characteristics such as supplier location and dependency are used as indirect indicators of risk.

> Certain countries lead to a high score, and if we are highly dependent on a supplier, they automatically receive a high score. (Interviewee 2)

Risk is often inferred from predefined indicators rather than direct observation of supplier conditions. Proxies allow organisations to categorise and prioritise risks efficiently, particularly in large and complex supply chains where detailed information is not always available.

In some cases, geographic proxies functioned not only as indicators of potential risk, but also as mechanisms that reduced the need for more extensive assessment processes.

> If it's within the Nordics or within Europe, they are usually approved quite easily. EU suppliers are almost always green. (Interviewee 1)

Such suppliers were frequently assumed to represent lower risk prior to detailed evaluation. Risk assessments were shaped not only by supplier-specific information, but also by broader assumptions linked to institutional and geographical contexts. These indicators rely on generalised assumptions about risk. Factors such as geography or dependency are used as substitutes for more detailed knowledge, translating complex conditions into simplified signals that can be processed with formal systems. Similar patterns also appeared in procurement decisions related to specific sourcing regions.

> There are some countries or feedstocks that we simply avoid because they are considered too risky. (Interviewee 3)

Proxy-based reasoning was also described in relation to digital risk assessment systems. One interviewee explained that risk estimates were often generated based on general assumptions about supplier type and geographic location rather than direct observation of supplier conditions.

> This kind of supplier in this kind of country probably has this kind of risk. (Interviewee 4)

In such situations, geographical context shaped risk-management decisions before detailed supplier-specific assessments had taken place. Risk assessments are shaped by the assumptions embedded in the proxies used to interpret that information.

4.2 Information gaps and limited visibility

A central theme across the empirical data is the presence of information gaps and visibility constraints across supply chains. Interviewees consistently described the difficulties in accessing reliable information about suppliers, particularly beyond the first tier.

This challenge is also reflected in secondary data. Research by the Ethical Trading Initiative highlights that downstream companies often have *"little to no visibility of suppliers' practices further upstream,"* which limits their ability to assess risks beyond tier one suppliers (ETI, 2025). While various tools and initiatives aim to improve supply chain visibility, secondary sources show that these efforts often restructure how information is interpreted instead of fully resolving the underlying information gaps (OECD, 2018; ETI, 2025).

4.2.1 Limited upstream visibility

Visibility did not just decline gradually, it decreased significantly upstream. Beyond tier 1, risk assessment became increasingly more difficult.

> The further upstream you go, the harder it becomes. It's much easier to audit a supplier in Sweden than one in Asia, and we do not always know what happens in earlier stages of production. (Interviewee 3)

Supply chain complexity, geographic distance, and differing institutional contexts limit the ability to monitor and evaluate conditions at earlier stages of production. Limited upstream visibility was described as a general characteristic of global supply chains instead of an isolated issue. Another interviewee noted that even direct suppliers did not always proactively disclose information about upstream sourcing practices.

> Sometimes suppliers don't proactively mention certain things, like if components come from China. You have to ask directly. (Interviewee 1)

This indicates that information gaps may persist even in direct supplier relationships and that visibility often depends on active information-seeking rather than routine disclosure. Secondary data reinforces this pattern, highlighting that companies often lack direct relationships with actors beyond tier one suppliers, reducing both transparency and influence (ETI, 2025). Organisations operate with

limited direct knowledge of upstream conditions. Risk assessment becomes increasingly reliant on mediated information and assumptions about suppliers beyond immediate control.

4.2.2 Data availability and quality issues

Even when data existed, its quality was a problem of its own. One interviewee summed it up bluntly.

> They put the wrong things, the wrong unit, the wrong year. (Interviewee 4)

Even with formal systems in place, the data collected may be deficient, inconsistent, or unreliable. Interviewees pointed to difficulties in obtaining information from suppliers, variations in reporting practices, and differences in suppliers' capabilities to provide accurate data. One interviewee highlighted how increasing supply chain complexity creates additional challenges for data collection. As supply chains become more fragmented and involve a larger number of suppliers and transactions, organisations must process substantially larger amounts of information, making direct verification increasingly difficult.

> […] so you need many more shipments. That means more suppliers, more complexity, more risk. (Interviewee 3)

The same interviewee further noted that the scale of information limits opportunities for direct verification.

> So no, I wouldn't say we have enough time. You have to rely on the frameworks and audits. (Interviewee 3)

These observations suggest that data challenges are also related to the volume and complexity of information organisations must process across increasingly fragmented supply chains, in addition to quality issues. These challenges are also reflected in secondary data, which highlights issues such as flawed information across multiple actors and a lack of standardised reporting practices (ETI, 2025). Industry reports similarly indicate that suppliers struggle to complete risk assessments accurately, affecting the reliability of collected data (amfori, 2024).

As a result, risk assessments are based on information that may be uncertain or misleading. Data collection is not purely a technical process, but depends on the capabilities, willingness, and understanding of suppliers. Supplier capability becomes part of the risk itself, rather than only a limitation in how risk is measured.

4.2.3 Reliance on external actors and indirect knowledge

Given these limitations, interviewees described how organisations rely on external actors and indirect sources to assess and manage risks. Responsibility for identifying and managing risks is often delegated upstream, reducing direct organisational control. In addition, external organisations such as NGOs were described as important sources of information about supply chain conditions.

> We talk with NGOs that work with labour standards to understand what is actually happening in the supply chain. (Interviewee 4)

Organisations depend on actors outside the organisation to access knowledge that is not available internally. Again, companies interpret information provided by others instead of relying on direct observations.

Interviewees also described how relevant knowledge about labour-related risks was often disconnected across multiple actors rather than concentrated within single roles. One participant noted that individuals formally responsible for sustainability issues did not necessarily possess the deepest operational knowledge of supplier conditions, while expertise regarding lower-tier practices was often held by external actors, specialists, or NGOs operating closer to production contexts.

> It's not always the sustainability manager that has the expertise. Sometimes the people who actually know what's happening are behind the scenes, or in NGOs, or much closer to production. (Interviewee 4)

Organisations relied on external intermediaries to supplement existing knowledge, and also because direct operational knowledge of upstream conditions remained difficult to access internally. Secondary data reflects a similar pattern, highlighting that companies often depend on external actors due to limited access to upstream suppliers and restricted leverage within complex supply chains (ETI, 2025). Risk assessment becomes a process of interpreting second-hand knowledge, shaped by the availability and limitations of external information sources. Reliance on external actors also extended beyond NGOs and specialist organisations. One interviewee described how certification systems depended on external auditors and third-party verification bodies to assess compliance.

> It is very difficult to be approved under ISCC. It's a very strict framework that requires approval from both the organisation and external auditors. So it's third-party validated, and they have nothing to gain from approving you. (Interviewee 3)

This illustrates how organisations often depend on external validation mechanisms to assess supplier practices, particularly in contexts where direct verification remains difficult. In some cases, organisations also relied on

contractual guarantees as substitutes for direct verification. One interviewee described how contractual requirements related to certification standards were used in situations where direct confirmation of supplier practices remained difficult. Under such conditions, contractual agreements functioned as mechanisms for managing uncertainty by transferring responsibility for compliance upstream despite limited direct oversight.

> You have to trust the frameworks. And then you include contractual guarantees. For example, you specify that something is […] compliant, and so on. So, you protect yourself legally through contracts. (Interviewee 3)

4.3 Limitations of formal systems and tools

While formal systems provide structure for managing supply chain risks, Interviewees described several limitations in how these systems function in practice. Risk management frameworks, certifications, and digital tools enable organisations to process complex information, but they do not fully capture how risks occur across supply chains.

These limitations are particularly visible when systems rely on indirect or partial information. In such cases, formal structures do not necessarily fail but operate with constrained representations of supply chain conditions. This is also reflected in secondary data, which highlights that existing due diligence approaches may be insufficient in complex or high-risk contexts (ETI, 2024).

4.3.1 Limitations of certifications and regulatory frameworks

Certifications work well for defined production stages. What happens after the product leaves those stages is another story.

> They are very good up until the product is created, but after that it becomes unclear what actually happens. (Interviewee 3)

Certifications may be effective in governing clearly defined stages of production, but less capable of capturing risks beyond these boundaries. Certain parts of the supply chain remain insufficiently covered within formal systems. Certifications complement risk assessment but also displace direct scrutiny by shifting attention towards what is measurable with the system, rather than what occurs in practice. In addition, Interviewees highlighted that the application of these frameworks is shaped by organisational constraints.

> We may need to prioritise how deeply we investigate. (Interviewee 2)

Operationally, even when risks are identified through formal systems, the extent to which they are examined may vary. Secondary data similarly points to

inconsistencies in regulatory frameworks and reporting standards across contexts, which can complicate implementation (ETI, 2025). Certifications and regulatory frameworks provide structure, but their ability to capture and operationalise risks is limited by both structural boundaries and practical constraints.

4.3.2 Limitations of digital tools and AI

Digital tools promise a lot, but delivering on that promise turned out to be harder. While this observation is discussed mostly by one interviewee, the underlying challenges were described by others and similar concerns are reflected in secondary data. Reports highlight that such tools often depend on underlying data quality and cannot fully capture complex supply chain conditions (amfori, 2024; ETI, 2025). While such tools are often presented as comprehensive solutions, they rely on underlying processes and inputs that shape how they function.

> You need so much communication behind the tool […] there is so much that needs to happen behind the scenes before you can implement a system and get data from suppliers. (Interviewee 4)

Digital systems do not operate independently, but depend on coordination, communication, and data input from multiple actors. Interviewees also pointed to a gap between how these tools are presented and how they actually operate.

> They say that they can do everything for you […] but that's not true. (Interviewee 4)

Digital tools may simplify the complexity of supply chain risks in their design and use. Industry reports similarly note that auditing and monitoring systems represent only one component of broader due diligence processes (amfori, 2024). The limitations of these tools become particularly evident when considering the use of AI to address data gaps.

> Maybe this is too vague […] maybe this is not really true […] the climate data were a bit off. (Interviewee 4)

AI-generated information may introduce additional uncertainty instead of fully resolving existing data gaps. Digital tools and AI facilitate the processing of large amounts of data, but their outputs remain dependent on underlying data quality, organisational processes, and system design. This raises a question about whether such tools reduce risk or just make risk manageable inside firm-level systems.

They provide structured representations of risk, not a complete insight into supply chain conditions. Research shows that structural characteristics of supply chains, such as the mixing of materials from multiple sources, can limit the effectiveness of traceability systems (ETI, 2025). Formal systems do not provide a

complete representation of supply chain risks but rather operate within defined boundaries that shape how risks are captured and processed.

4.4 Resource constraints and organisational factors

The interviews revealed that risk management is affected not only by the tools and information at the organisations' disposal but also by their organisational and resource conditions. Respondents stated that their capacity to prioritise and take action on certain risks is influenced by various factors such as time and budget, and that organisations need to make choices about which risks to analyse, manage, and tackle.

In this sense, secondary data also reveals that insufficient access to financial resources, infrastructures and markets limits the ability of organisations and suppliers to pursue sustainability (Better Cotton, 2025). The need for a significant amount of human resources and capital for effective due diligence also appears to be lacking for many companies (ETI, 2025). Hence, risk management is also shaped not only by risks that are identified but also by those that are within the capacities of organisations to address and mitigate.

4.4.1 Resource constraints and prioritisation

Even when risks were identified, how deeply to investigate them became a question of budget and time, not just severity.

> How we respond depends on time, cost, and resources. We may need to prioritise how deeply we investigate. (Interviewee 2)

The depth of risk investigation is determined not only by the level of risk, but also by available capacity. Existing frameworks also recognise that resource constraints influence how due diligence is conducted and necessitate prioritisation (OECD, 2018).

> Sustainability teams don’t have the largest budget, and you can’t manually call everyone or audit everything, it’s just not possible. (Interviewee 4)

Scale and limited resources restrict direct engagement with suppliers. Decision-making involves continuous trade-offs, where not all risks can be addressed equally. Prioritisation reflects a balance between risk severity and organisational capacity, meaning that certain risks may be deprioritised despite their potential significance (OECD, 2018).

4.4.2 Organisational structure and distributed responsibility

Who assessed the risk and who acted on it were often different people in the organisation, sometimes in different departments, with different priorities. There is often a separation between those who assess risks and those who act on them.

> I don't work directly with suppliers, category managers handle that […] I'm not involved in those discussions. (Interviewee 2)

Responsibilities are distributed across roles, which can limit visibility into how risks are interpreted and addressed operationally. Rather than being a single, coordinated process, risk management consists of interconnected activities carried out by different actors. Interviewees also described how responsibility is often pushed upstream to suppliers.

> We place requirements on suppliers and expect them to take responsibility […] but how far that responsibility extends is unclear. (Interviewee 3)

The distribution of responsibilities along the supply chain is unclear. Secondary data also suggests that companies might be unable to have much of an impact on their suppliers and that successful due diligence demands cross functional collaboration (OECD, 2018; ETI, 2025). Consequently, the nature of risk management hinges on the manner in which accountability is allocated internally and between companies, which creates fragmented decision-making and makes it dependent on the coordination of various stakeholders.

4.5 Misalignment between systems and reality

While 4.3 examined limitations across formal systems and tools themselves, interviewees also described a broader tension between how supply chain risks are represented organisationally and how they unfold in action. Risks were described as fragmented, uncertain, and difficult to fully grasp across extended supply chains. They did not reflect a stable or fully observable reality. The challenge is not only whether formal systems function effectively, but also whether complex supply chain conditions can be fully represented within such systems at all. Several interviewees emphasised that, despite structured processes, it remains unclear what actually happens across different parts of the supply chain.

> Some suppliers don't even want to give you information. Some suppliers don't have access to the internet. Some suppliers have issues with the language. Some suppliers don't understand sustainability at all, so they put the wrong things in there, or the wrong unit, or the wrong year, or they upload random things. So, it's extremely complicated. (Interviewee 4)

Organisations rely on information that is incomplete, inconsistent, and shaped by factors beyond their control. They were required to interpret fragmented and inconsistent information when assessing risks. The tension is further reflected in how control is understood. While organisations establish requirements and monitoring systems, interviewees highlighted that full oversight is not achievable.

> You can't manually call everyone. You can't go on site and audit everything. It's just not possible. (Interviewee 4)

Similarly, formal frameworks were described as providing guidance that remains difficult to apply in practice.

> The principles are good, but when it comes to practical application, it is very difficult to understand what is actually allowed […] I have taken courses on this and still felt like I had more questions than answers afterwards. (Interviewee 3)

Uncertainty persists even when organisations rely on structured approaches. Organisations operate in contexts where both information and guidance remain fragmented, requiring continuous interpretation. Formal systems do not necessarily increase control over supply chains, but rather structure how uncertainty is perceived and managed inside organisations, a challenge also highlighted in research on due diligence in complex contexts (ETI, 2024). Interviewees also emphasised that risks are not isolated but interconnected and constantly evolving.

> Everything is connected […] and that makes it even more complicated. (Interviewee 4)

How risks are represented across organisational systems and how they unfold across supply chains remains disconnected. Risk management appeared to involve not only the application of formal tools and frameworks, but also ongoing interpretation when knowledge is incomplete and oversight is limited. The challenge was not simply a lack of information, but the difficulty of translating complex and evolving supply chain conditions into stable and actionable information.

4.6 Empirical summary

Table 3 summarises the main themes identified in the empirical analysis. It illustrates how insights from the interviews relate to supporting evidence from secondary sources, and highlights consistent patterns across the data. The summary provides an overview of how supply chain risks are identified, interpreted, and managed in practice.

Table 3. Summary of empirical findings and supporting secondary data.

Theme	Key insights (interviews)	Secondary sources
Formal systems & proxies	Certifications and risk scoring tools are used as substitutes for direct verification; risk is assessed through predefined categories and indicators (e.g. country, dependency)	Standards and reporting frameworks facilitate scalability but rely on simplified indicators and indirect verification (e.g. traceability challenges, inconsistent standards)
Information gaps & limited visibility	Limited insight beyond tier 1 suppliers; reliance on incomplete, inconsistent or supplier-reported data	Lack of transparency and fragmented data constrain companies' ability to assess upstream risks
Limitations of formal systems	Tools and frameworks simplify complex realities; risk is translated into measurable indicators that may overlook context-specific differences	Due diligence systems struggle to capture real conditions due to inconsistent implementation and structural complexity
Resource constraints & organisational factors	Time, cost, and organisational structure limit the depth of risk investigation; responsibility is distributed across roles and actors	Due diligence requires significant resources and coordination, which limits companies' ability to fully assess and act on risks
Misalignment between systems and reality	Formal systems create a perception of control, while actual supply chain conditions remain uncertain and difficult to verify	Due diligence may be insufficient in complex contexts, where weak governance and limited visibility constrain effective risk management

As shown in Table 3, organisations rely on formal systems and proxies to manage risks under uncertainty. These systems therefore operate within structural and organisational constraints that shape how risks are identified and addressed. Rather than providing a complete representation of supply chain conditions, risk management emerges as a process shaped by indirect information, trade-offs, and ongoing interpretation. Supply chain risk management involves ongoing processes of simplification, interpretation, and prioritisation shaped by formal systems, indirect information, and organisational constraints. These findings illustrate how organisations navigate supply chain risks in uncertain environments. The following chapter discusses these patterns in relation to the theoretical framework.

5. Discussion

This chapter interprets the empirical findings in relation to the theoretical framework to examine how organisations identify and prioritise supply chain risks under conditions of uncertainty. Although the empirical findings are not limited to labour-related risks, the identified patterns reflect underlying processes that are particularly relevant for labour risks in multi-tier supply chains, where visibility is low and uncertainty is high. The discussion focuses on how broader processes of interpretation, simplification, and prioritisation become especially significant in the context of labour-related risks.

The chapter follows the logic of the analytical framework presented in Chapter 2. It begins by examining the contextual conditions of structural complexity and limited visibility that shape organisational decision-making, before discussing how organisations simplify and interpret risk-related information, prioritise risks under competing demands, and evaluate possible response strategies. The discussion also considers how the empirical findings support, refine, and extend the original analytical framework.

The discussion draws on bounded rationality and organisational sensemaking to examine how risk construction unfolds through formal systems, indirect information, and processes. Bounded rationality was more directly visible in the empirical material through organisations' reliance on simplification mechanisms and structured procedures, while sensemaking helps explain how risks are interpreted and prioritised under ambiguity.

5.1 Structural complexity and limited visibility

All participating organisations had monitoring systems in place. Yet access to information dropped sharply beyond tier 1. Consistent with research showing that structural opacity increases in lower tiers of supply chains (Villena & Gioia, 2018), supplier data arrived filtered through intermediaries, audit reports, certification, or self-assessments, and almost never firsthand.

Importantly, uncertainty was not simply caused by a lack of data, but embedded in the structure of multi-tier supply chains themselves. Production activities are distributed across legally independent actors operating in different geographical and institutional contexts, making direct oversight difficult even when formal monitoring systems are in place. Organisations frequently lacked direct knowledge of supplier conditions beyond tier 1 relationships. They were increasingly dependent on proxy indicators, certifications, and supplier-reported information to construct understandings of upstream risks.

The analysis highlights difficulties in determining what was actually happening further upstream in the supply chain, particularly when suppliers operated several

tiers away from the focal company. This meant that companies could rarely verify labour conditions directly, which is especially problematic for labour-related risks. Instead, they had to judge how much confidence to place in second-hand data. Decision-making therefore depended on how organisations interpreted the credibility and significance of indirect risk signals, a situation that maps onto Milliken's (1987) concept of state uncertainty, where organisations struggle to establish a reliable understanding of external conditions relevant to decision-making.

Restricted insight into supplier practices affected how organisations assessed the seriousness and consequences of labour-related risks. The results show difficulties in assessing supplier conditions, evaluating the reliability of available information, and determining how labour-related issues should be addressed on the ground. Organisations faced difficulties in identifying risks but also in evaluating how significant they were and which responses were considered appropriate. This corresponds to Milliken's (1987) concepts of effect uncertainty and response uncertainty, where organisations are unable to fully predict the implications of identified risks or determine which responses are most appropriate.

Compared to more conventional operational risks, labour-related risks were especially difficult to assess through standard risk-management approaches. While supply chain risks were often discussed more broadly, these challenges appeared particularly pronounced for labour-related risks, which are difficult to observe directly and frequently rely on indirect forms of information and verification. Operational disruptions such as delays or shortages are often measurable and immediately detectable, whereas labour conditions are more difficult to observe directly and may remain hidden behind formal compliance structures. As the findings indicate, completed audits did not necessarily provide confidence about actual supplier practices and documented information did not automatically translate into clear understanding.

Bounded rationality (Simon, 1955) tells us why: organisations simply cannot achieve comprehensive oversight across extended supply chains. Managers instead operated within practical limits shaped by partial information, time constraints, and restricted visibility into lower-tier operations. Uncertainty was a structural feature of supply chain risk management, not a temporary information problem that organisations could fully eliminate through additional monitoring or data collection.

5.2 Formal systems as organisational simplification mechanisms

The practitioners described a standardised toolkit: audits, certifications, supplier assessments, country-risk tools, reporting systems, and monitoring frameworks.

These were how risk got identified and evaluated. The systems mattered the most because they helped companies process large volumes of information. Companies did not assess each supplier individually, but instead relied on structured procedures that turned complex supplier networks into manageable categories.

These systems did not provide complete transparency into supply chain conditions. Instead, they translated complex supplier environments into manageable categories, indicators, scores, and documented procedures that supported organisational decision-making. Supplier evaluations depended largely on audit outcomes, certifications, country classifications, and other standardised criteria rather than direct verification of supplier practices.

In some cases, risk classifications were also partially embedded within the structure of assessment systems themselves. Suppliers could automatically be categorised as higher or lower risk based on predefined indicators such as supplier dependency or geographical location before more detailed evaluation had taken place. Formal systems simplified risk assessment and structured which suppliers received attention from the outset.

Risk management relied on structured representations of risk rather than full knowledge of upstream operations. Governance systems functioned as monitoring tools, but also as organisational mechanisms for simplifying and interpreting supply chain information.

This is bounded rationality at work (Simon, 1955). Manually verifying labour conditions across all suppliers was never realistic given the time constraints and sheer scale of global supply chains. Simplification was not an administrative preference, but a precondition for making any decision at all. Standardised procedures helped reduce complexity by allowing organisations to categorise suppliers, structure selective attention, and process risk information through routines and predefined criteria. Similar challenges are also described in industry and policy reports (OECD, 2018; ETI, 2025) which describe how due-diligence systems rely on standardised indicators and reporting structures to manage complex supply chain information. This despite persistent limitations in upstream visibility.

Monitoring systems helped organisations create consistency in their risk-management processes. Assessments and due-diligence procedures provided structured ways of identifying, documenting, and escalating risks internally. These systems were described as necessary because manually monitoring all suppliers or directly verifying labour conditions across large supplier networks was practically impossible. Formal governance systems helped organisations prioritise attention and allocate resources across complex supply chains in a more systematic way.

The results also show limitations in these systems. Such systems could not provide complete insight into supplier practices. Secondary data suggests that

such certification systems rely on simplified indicators and may not fully capture actual working conditions across supply chains, indicating that they can create a perception of control rather than direct insight (amfori, 2024; ETI, 2025). The findings also referred to fragmented information, varying audit quality, and differences between documented compliance and operational reality. Governance systems created partial oversight of upstream operations, meaning documented compliance did not necessarily provide a complete understanding of supplier conditions (Locke et al., 2007; Villena & Gioia, 2018).

Importantly, formal governance systems are not meaningless or purely symbolic. Instead, they appear to function as practical organisational ways to manage the difficulties of managing labour-related risks across multi-tier supply chains. Organisations continued to rely on these systems despite recognising their limitations because they provided workable ways for taking action. Formal systems persist not because they eliminate uncertainty, but because they make organisational action possible despite incomplete access into supply chain conditions. Such simplification process may shape which risks become observable inside the organisations, as risks that are difficult to document, quantify, or standardise may receive less attention within risk-management processes. Risk signals alone were insufficient to generate responses: what mattered was how they were framed inside the organisation.

5.3 Interpreting and prioritising labour-related risks

The interviews covered supply chain risk management broadly. But the patterns below matter significantly for labour-related risks, precisely because those are highly ambiguous and hard to observe. While formal systems helped organisations simplify complex supply chain information, organisations still needed to interpret which risks were considered significant, credible, and actionable in practice. Information about potential labour-related risks did not automatically translate into organisational action or prioritisation.

Instead, organisations appeared to interpret and evaluate ambiguous risk signals before determining whether issues required further attention. Risk prioritisation often depended on available indicators such as audit findings, country-risk classifications, supplier evaluations, stakeholder pressure, or reported incidents. This meant that some risks received greater attention across organisational decision-making processes than others.

Labour-related risks are not prioritised solely based on formal risk indicators, but also on how risks are interpreted within existing firm-level structures. Despite the findings often referring to broader supply chain risk-management processes, these interpretive dynamics were especially relevant in situations where risks were ambiguous and difficult to verify, conditions that frequently characterise labour-related risks. Consistent with Weick's (1995) perspective on sensemaking,

organisations appeared to rely on selective attention when interpreting complex supplier environments. Audit findings, supplier assessments, country-risk classifications, stakeholder concerns, and reported incidents were used as cues to assess whether risks required escalation or intervention.

Geographical location also functioned as an important interpretive cue. Suppliers operating in Nordic or EU contexts were frequently assumed to represent lower risk, indicating that broader assumptions linked to institutional environments shaped how risks were interpreted and prioritised organisationally. Organisations focused on signals that could be interpreted within existing governance structures and decision-making processes. Risk prioritisation depended, in addition to the existence of risk signals, on whether those signals appeared credible, understandable, and actionable inside the organisation.

The findings also show difficulties in assessing the seriousness of labour-related risks when information was incomplete or difficult to verify. In such situations, organisations relied on standardised categories, previous experience, and existing governance structures to guide prioritisation. Organisations leaned on interpretations that were 'good enough' to act on (Weick, 1995). Previous experience, and existing governance frameworks therefore helped organisations translate uncertain supplier conditions into risks that could be categorised, prioritised, and acted upon.

Risk interpretation involved multiple organisational perspectives. Sustainability concerns were often assessed alongside operational, commercial, and supplier-related considerations, indicating that risks were interpreted within broader contexts rather than through purely technical assessments alone. Risk assessments were shaped by selecting cues and governance structures, and also by broader organisational contexts and competing considerations. This is consistent with Maitlis and Christianson's (2014) argument that sensemaking develops through processes that shape what is considered significant, urgent, or actionable.

However, relevant knowledge about labour-related risks was often fragmented across multiple actors. Expertise regarding upstream supplier conditions frequently appeared distributed across procurement teams, external organisations, specialists, and NGOs operating closer to production contexts. Furthermore, organisational interpretations of risk were shaped through reliance on external intermediaries and indirect forms of knowledge.

How risks got framed inside the organisation shaped their fate. Risks connected to operational continuity, supplier performance, reputational exposure, or regulatory expectation consistently gained more attention — consistent with Kaplan's (2008) framing work. Risks evaluated in isolation rarely made the priority list.

Importantly, organisations did not ignore supply chain risks. Rather, they had to prioritise attention when visibility, resources, and verification were limited.

Under such conditions, not all risks could receive equal attention simultaneously. This may help explain why organisations relied heavily on routines and established indicators when determining which issues required intervention. Risk prioritisation is less a technical assessment exercise than an ongoing process of interpreting and acting upon partial information. A sensemaking perspective explains how organisations translate partial supplier information into manageable data that supports action despite uncertainty. These interpretive processes therefore shaped which risks and response strategies organisations considered feasible and actionable under existing organisational constraints.

5.4 Organisational trade-offs and competing priorities

None of these risk interpretations and prioritisations happened in a bubble; sustainability issues vied against operational continuity, relationships with suppliers, and other limitations on organisational resources, and sustainability issues did not invariably win out. Consistent with framing research (Kaplan, 2008), labour-related risks were more likely to be noticed in the organisations when they were linked to operational continuity, reputational risks, supplier performance, and regulation.

These findings indicate instances in which organisations had to weigh risk in the supply chain against business factors (e.g., supply continuity, the importance of maintaining good, long-term supplier relationships, or limited resources). Not all the risks found by the interview respondents could be addressed to the same extent at the same time. Some risks were judged to be important but also not feasible to manage in the way organisations might choose or desire, given organisational constraints. The risks that could be translated into organizationally manageable interventions were more likely to be prioritised.

This finding is consistent with Simon's (1955) view that organizations opt for satisfactory and manageable interventions rather than addressing all risk. Similarly, consistent with March and Simon (1958) view on organisational decision making, labour risks were assessed with regard to feasibility, operational considerations and resources rather than on an ethical basis. Prioritisation was based not only on how risky something was seen but whether it was perceived as practical to deal with, given organisational constraints and pressures. Supplier relationships also played a role in the prioritisation of risk in the supply chain and the types of responses considered to be appropriate. It was especially important for the companies to collaborate, communicate and be responsive in their relationships with the suppliers when immediate withdrawal from the relationships might be detrimental.

This is consistent with previous research that has found supplier relationships and the time dimension of supplier relationships can be important in supply chain risk management (Wilhelm et al., 2016). At the same time, however, tension

between organisational responses to external governance pressures and actual supply chain practice was repeatedly identified by the interviewees. Organisations were acutely aware of the difficulties of working with geographically dispersed supplier networks and how this affected the actualization of any governance regimes in such networks.Regulatory expectations, due-diligence requirements, and stakeholder scrutiny increased pressure on organisations to demonstrate responsible risk management, while practical limitations related to supplier monitoring constrained how extensively organisations could intervene.

Labour-related risk management can be understood as a process of identifying risks, and as a process of evaluating and prioritising feasible responses under competing organisational demands. Risk prioritisation was shaped by perceived risk severity, but also by how organisations balanced sustainability concerns against operational continuity, supplier relationships, resource limitations, and broader commercial pressures. Prioritisation processes function less as objective assessments of risk and more as organisational processes through which companies determine which risks and interventions are considered manageable.

5.5 Formal governance systems under conditions of uncertainty

Audits, certifications, due-diligence procedures, supplier assessments, and reporting systems were the backbone of how organisations managed risk. They were described as crucial for identifying, monitoring, and prioritising. However, these systems did not provide organisations with complete transparency into upstream supply chain conditions. Instead, companies frequently relied on indirect indicators and standardised procedures when assessing risks in practice. In some situations, organisations also relied on contractual guarantees linked to certification standards as substitutes for direct verification of supplier practices. Governance mechanisms functioned as monitoring structures, and also as tools for managing uncertainty and transferring responsibility upstream with limited direct oversight.

Consistent with bounded rationality (Simon, 1955), organisations simplified large amounts of fragmented information to support decision-making. Governance systems consequently helped organisations structure selective attention, prioritise resources, and coordinate responses across extensive supplier networks, even when direct verification remained difficult.

The findings also suggest that uncertainty was not only informational but related to questions of responsibility. The OECD (2018) distinguishes between situations where firms cause, contribute to, or are directly linked to adverse impacts through business relationships. With limited visibility, organisations may struggle to determine which of these relationships applies, creating uncertainty about risks themselves and also about an appropriate response.

In addition, the results show difficulties related to supplier reporting, incomplete data, varying audit quality, and limited opportunities for direct oversight beyond tier 1 suppliers. Organisations often operated with only partial understanding of upstream supply chain conditions despite the existence of formal monitoring and due-diligence systems. Research on human rights due diligence highlights that standard processes may be "not possible or not enough" in complex contexts, where weak governance and limited oversight constrain companies' ability to gain reliable insights (ETI, 2024). Similarly, industry reports describe supply chains as increasingly difficult to fully oversee due to their interconnected and evolving nature (amfori, 2024; Better Cotton, 2025).

The continued reliance on formal systems can be explained by their practical function. In situations where comprehensive oversight was unrealistic, standardised systems provided organisations with workable ways of structuring information and prioritising supply chain risks. Despite increasing awareness of supply chain risks, companies often struggle to translate this into effective action due to structural constraints such as limited visibility and weak leverage (ETI, 2025). The findings partly support arguments related to means-ends decoupling (Bromley & Powell, 2012), where formal governance structures may coexist with ongoing difficulties in fully translating governance objectives into operational oversight.

Supply chain risk management can be understood less as a process of achieving complete control over supply chain conditions and more as a process of managing uncertainty through simplified representations of risk. Governance systems helped organisations translate fragmented supplier environments into manageable categories, indicators, and prioritisation processes that supported organisational action despite only partial information. Managing supply chain risk under uncertainty is less about knowing everything about your suppliers and more about simplifying, interpreting, and prioritising what you do know, well enough to act.

5.6 Revised analytical framework

Figure 4 presents the revised analytical framework developed through the empirical findings and discussion. The original framework proposed that organisations interpret and prioritise supply chain risks through interconnected processes of selective attention, simplification, prioritisation, and response evaluation under uncertainty. The empirical findings largely supported this overall structure but also refined how these processes actually operated and which organisational processes were most empirically visible.

The findings also refined the sensemaking perspective used in the original framework. While the theoretical framework highlighted several dimensions of sensemaking, the empirical findings showed that selective attention to cues and

plausibility-based interpretation were particularly noticeable within organisational risk-management processes. Organisations relied heavily on monitoring when determining which risks required attention. While the empirical material primarily highlighted cue extraction and plausibility-based interpretation, the findings also show how sustainability concerns were evaluated alongside operational and commercial considerations across organisational contexts.

The empirical findings also refined how prioritisation and response evaluation were understood in the original framework. The organisations prioritised which risks and interventions were considered operationally feasible. Governance systems appeared to function less as mechanisms of complete oversight and more as practical structures for managing uncertainty and supporting action despite incomplete visibility into supply chain conditions.

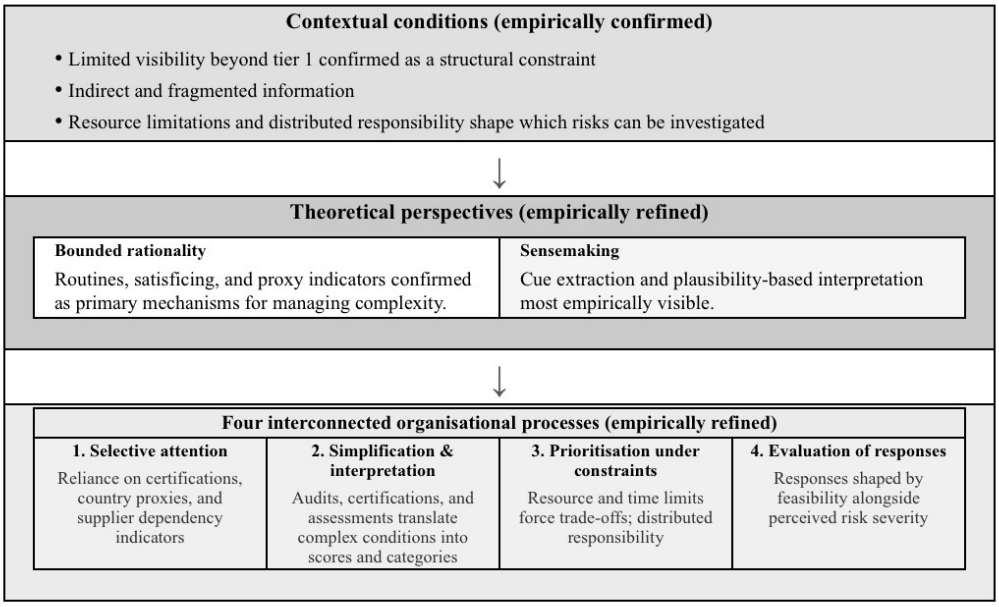

Figure 4. Revised analytical framework.

The revised analytical framework suggests that supply chain risk management under conditions of uncertainty depends less on achieving complete visibility into supplier conditions and more on organisations' ability to simplify, interpret, prioritise, and translate risk information in ways that support feasible organisational action. Compared to the original framework, the revised framework places greater emphasis on structural uncertainty, proxy-based risk assessment, simplification mechanisms, and the role of organisational feasibility in shaping prioritisation and response strategies. The revised framework therefore contributes

a more empirically grounded understanding of how organisations manage risks in complex multi-tier supply chains where direct oversight remains limited.

6. Conclusions

This study set out to examine how organisations interpret and prioritise supply chain risks in uncertain settings, with particular attention to labour-related risks in multi-tier supply chains. Drawing on bounded rationality (Simon, 1955) and organisational sensemaking (Weick, 1995), the study explored how practitioners use formal systems, proxies, and processes when managing risks in contexts where visibility is limited and information is incomplete. The research question guiding the study was:

How do companies interpret and prioritise risks in supply chains under conditions of uncertainty?

The following sections present the main conclusions, discuss theoretical and practical implications, outline limitations of the study, and suggest directions for future research.

6.1 Main conclusions

The study leads to five main conclusions regarding how organisations interpret and prioritise supply chain risks with limited upstream transparency. First, risk is constructed through formal systems, indirect information, and organisational processes. What counts as a risk is shaped by what these systems make observable rather than solely on objective detection.

Second, under bounded rationality, organisations simplify complex supplier environments into categories, indicators, and standardised procedures. These mechanisms do not eliminate complexity but make risk management feasible.

Third, risk prioritisation is an interpretive process. Organisations give attention selectively to certain signals, rely on plausible interpretations over complete verification, and frame risks across existing organisational frameworks. Because of that, risks that are difficult to quantify or standardise may receive less attention.

Fourth, prioritisation is shaped by organisational feasibility and competing pressures, not by risk severity alone. Sustainability concerns are evaluated alongside operational continuity, supplier relationships, and commercial pressures.

Fifth, formal governance systems reduce uncertainty without resolving the structural opacity of multi-tier supply chains. Their value lies less in achieving complete oversight and more in enabling action when complete oversight is unattainable. These conclusions suggest that supply chain risk management under uncertainty is less a process of achieving visibility and control than a process of

constructing workable representations of risks that enable action. This shifts attention from whether organisations possess complete knowledge of supply chain conditions to how they simplify, interpret, and prioritise fragmented information in order to make decisions.

6.2 Theoretical implications

This research contributes to the supply chain risk management literature by shifting analytical attention from the design of formal governance mechanisms to the internal organisational processes through which risks are interpreted and prioritised in practice. While existing research has mostly examined audits, codes of conduct, and monitoring systems (Locke et al., 2007; Montecchi et al., 2021; Both and Wilhelm, 2025), the findings suggest that these mechanisms also play an important cognitive and organisational role. Rather than providing complete visibility into supply chain conditions, they simplify complex environments into manageable procedures that enable action despite limited information and structural opacity. This study shows *what governance systems actually do* under uncertainty.

The research extends sensemaking theory into the under-explored context of supply chain risk management. Although sensemaking has been applied to crises, strategic change, and CSR contexts (Basu and Palazzo, 2008; Whiteman and Cooper, 2011), its application to labour-related risk decision-making in multi-tier supply chains has remained limited. Cue extraction, plausibility-based interpretation, and framing are central to how organisations manage ambiguous risk signals. However, the findings provide a more empirically grounded understanding of which dimensions of sensemaking are most visible in this context, identifying aspects such as the social negotiation of risk across roles that warrant further investigation.

The study also demonstrates that bounded rationality and sensemaking are complementary. Bounded rationality explains why simplification is necessary, as organisations face cognitive, informational, and structural limits that prevent comprehensive oversight. Sensemaking complements this by explaining how that simplification unfolds interpretively, since organisations selectively attend to cues, construct plausible meanings, and frame risks within organisational contexts. Combined, these perspectives provide a more complete explanation of how organisations manage uncertainty than either perspective alone.

The findings also support Milliken's (1987) distinction between state, effect, and response uncertainty, although the empirical material suggests that these dimensions were often closely interconnected. Difficulties in understanding supplier conditions, assessing the significance of identified risks, and determining appropriate responses frequently overlapped in participants' descriptions of supply chain risk management when visibility is limited.

Finally, the study adds nuance to the concept of means-ends decoupling (Bromley and Powell, 2012) in the context of supply chain governance. Formal systems make organisational action possible despite deficient direct knowledge of upstream operations. Decoupling in supply chain contexts is less about deliberate ceremonial adoption and more about the structural impossibility of fully translating governance objectives into operational oversight across extended and fragmented supply chains.

6.3 Practical implications

These findings present several practical implications for those engaged with supply chain risk management, sustainability, and procurement. For example, practitioners need to appreciate that monitoring systems are incomplete rather than comprehensive representations of supply chains, and that decisions based on them will tend to miss out on risks that are hard to quantify, record or standardise. It is therefore essential that monitoring systems should be supplemented with other sources of information as well as reflection on what lies outside of the formal indicators. Risk assessment tools and prioritisation approaches should be used in light of how the decision-maker's context limits their options; resource constraints, time and distributed responsibility are not confounds or distortions of the assessment, they are inherent features of risk management. By recognising these issues, and accepting them as inherent, decision-makers are in a better position to make better-informed choices.

Another implication is the danger to risk understanding of distributed responsibility. The study showed that those assessing risk can be separate from those deciding what to do on the basis of this risk information, and responsibility for the problem is passed on upstream to suppliers without clear responsibility for what happens after that. This may result in a fragmented understanding of the problem at best and a failure to act at worst. Organisations could seek to mitigate the negative effects of this by improving the mechanisms for sharing and communicating information across functional areas and by assigning more clearly defined responsibilities for addressing problems.

Finally, the analysis raises questions about the role of governance systems in determining what is visible within a supply chain. Formal monitoring and assessment systems tend to focus on quantifiable and recordable risks, which may mean that supply chain actors miss problems, such as those relating to the labour of workers that are less likely to present themselves in ways that can be recorded and quantified, throughout the systems available. In particular, practitioners may need to be conscious of relying on indicators or measures that have a narrower range of potential risk types that they pick up.

This means that practitioners need to: be able to critically reflect on the types of risks that are not easily observable from their current systems; be able to

critically evaluate the indirect information they receive; be prepared to challenge assumptions that are built into risk assessment scores; and use other sources of information to supplement monitoring and risk assessment, such as continuing engagement with supply chains and understanding context. Ultimately, it is the ability to think critically and to be critically reflective, as well as the systems themselves that will determine the effectiveness of supply chain risk management.

6.4 Limitations and future research

This study has several limitations that should be taken into consideration when assessing the findings. First, the study is based on a limited number of interviews, which means that the perspectives presented are not comprehensive in nature, and the analysis is analytical rather than meant to provide empirical generalisation. Second, the analysis relies on accounts of practitioners that describe rather than reveal the organisations' risk management practices. Third, the research focuses on Swedish or Nordic organisations, and the findings may not be generalisable to other contexts as perceptions of sustainability and supply chain risks vary across countries. Finally, the study focuses on labour-related risks only, but the findings reflect a wider range of supply chain risk management processes. This may reflect a broader discussion by respondents around day-to-day risks.

These limitations offer a starting point for further research to advance the research agenda. One opportunity for further research is to examine in more detail the social nature of interpretation processes and how the risk is negotiated by different organisational roles. Although this study revealed that risk interpretation is multi-perspectival, this thesis does not examine closely how sustainability managers, procurement personnel, and senior executives negotiate diverse framings of risk in the same organisation as they work with a particular issue. A study employing observational or ethnographic methods may provide further understanding in this area.

Second, the enactment feedback loop can be investigated more directly in longitudinal research. Sensemaking theory suggests that organisations responses become visible in time as they develop, which is a dynamic not possible to capture within a cross-sectional research design. A study examining how risks become visible, monitored, and then addressed, as a part of a feedback loop of monitoring, corrective action, and supplier engagement across several iterations would be beneficial to the research area.

Third, studies comparing different regulatory and institutional settings may provide insights into whether patterns found in this study are generalisable or specific to the context. This study was carried out in Swedish and Nordic context that may influence how organisations approach supply chain risk management and further studies can compare risk management practices in different regulatory and institutional settings.

Fourth, further research can examine how labour-related risk is perceived and discussed within a larger set of supply chain risk in a more specific and in-depth manner. Although this study discusses wider risks, the findings related to labour-related risk have characteristics that are unique and may require separate and further exploration. These characteristics include the low observability of risks, their location embeddedness, and moral dimension.

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Popular science summary

Companies today rely on complex global supply chains where products often pass through multiple suppliers across different countries before reaching the final customer. This makes it difficult for companies to know what is actually happening throughout their supply chains. This is particularly true when it comes to working conditions and labour rights beyond their direct suppliers.

Even when companies use audits, monitoring systems, and certifications, labour violations remain difficult to detect and address. This thesis examines how companies decide which supply chain risks deserve attention when information about suppliers and working conditions is incomplete.

Based on interviews with supply chain professionals, the study shows that risk management is not simply a matter of identifying the most serious risks. Instead, decisions are influenced by what information is available, what is measurable through existing systems, and what resources are available to the organisation. The findings suggest that formal governance systems are valuable not because they provide complete oversight of supply chains, but because they help organisations make decisions and take action despite uncertainty and limited visibility.

Appendix 1

Interview Guide

Thank you for taking the time to participate. The interview will take approximately 20–30 minutes. The purpose of this study is to understand how organisations interpret and prioritise labour-related risks in supply chains.

With your permission, the interview will be audio recorded to facilitate transcription and analysis. The recording will be used only for research purposes and will not be shared with others. All responses will be anonymised.

The interview guide is semi-structured and organised around themes informed by the theoretical framework. The questions are intended to prompt discussion, and follow-up questions may be used to explore issues in more depth.

Interview metadata (recorded by the researcher):

- Name
- Organisation
- Location
- Position
- Years of experience

Part 1: Background Questions

Q1. Could you briefly describe your role and how it relates to supply chain or sustainability issues?

Part 2: Identifying Labour Risks

Q2. What kinds of labour-related issues are typically considered relevant within your supply chain?

Q3. How do you usually become aware of labour-related issues in your supply chain?

Follow-up questions:

- What information sources do you rely on?
- Are there particular signals that typically trigger attention?
- Could you give an example?

Part 3: Interpreting Risk Signals

Q4. When a labour issue is identified, how do you decide whether it is serious?

Follow-up questions:

- What factors influence that decision?
- Were there different interpretations of the issue internally?
- Are there situations where the information is unclear or contradictory?

Part 4: Uncertainty

Q5. In practice, do you feel you usually have enough information and time to assess labour-related risks?

Follow-up questions:

- How do you deal with that uncertainty?

Part 5: Risk Prioritisation

Q6. How do you decide which labour-related issues need the most attention?

Follow-up questions:

- What factors influence whether an issue becomes a priority?
- Do labour risks ever compete with other business priorities?

Part 6: Response Decisions

Q7. When a labour-related issue is identified, what actions are usually considered?

Follow-up questions:

- What factors influence whether you intervene, monitor, or disengage?

Part 7: Decision Example

Q8. Could you describe a situation where a labour-related issue required a difficult decision?

Follow-up questions:

- What made that decision challenging?

Part 8: Reflection

Q9. What do you see as the biggest challenge when managing labour-related risks in supply chains today?

Q10. Is there anything else you think is important to understand about how your company manages labour-related risks in supply chains?

Possible probes (used when relevant):

- Could you give a concrete example?
- What made that situation difficult?
- What information did you rely on in that situation?
- How did you decide what to prioritise?
- What other factors influenced that decision?

Thank you for your time and participation. If you later think of anything you would like to add or clarify, please feel free to contact me by email.

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