

## **Understanding supply chain corruption in procurement: Antecedents, outcomes, and countermeasures**

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# **UNDERSTANDING SUPPLY CHAIN CORRUPTION IN PROCUREMENT**

ANTECEDENTS, OUTCOMES, AND COUNTERMEASURES

**BY  
GENG WANG**

DISSERTATION SUBMITTED 2023



**AALBORG UNIVERSITY**  
DENMARK



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By

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**AALBORG UNIVERSITY**  
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## CV

Geng Wang was born in Changchun, China. She completed her bachelor's degree in building environment and energy application engineering at Northeast Forestry University, China, in 2015. Following this, she furthered her education by obtaining a master's degree in Economics from Jilin University, China, in 2017. After completing her master's degree, she worked as an auditor. Her expertise and skills in the field led to her the membership of the Chinese Institution of Certified Public Accountants (CICPA). This professional experience provided her with valuable insights into the challenges of supply chain corruption in procurement and the significant economic damage and negative impact it causes. Motivated to contribute to the fight against supply chain corruption, she embarked on a Ph.D. journey in 2020. She joined the Department of Materials and Production at Aalborg University, where her research focuses on understanding the nature of supply chain corruption in procurement and developing strategies to combat it effectively. From January to August 2023, she was a courtesy faculty at Oregon State University, collaborating with Professor Zhaohui Wu and Associate Professor Paul Skilton to explore normalization of supply chain corruption.

# ENGLISH SUMMARY

Corruption is a challenge in business operations, extending its influence across various aspects of the supply chain, including procurement, production, distribution, and marketing (UN Global Compact, 2010). Among these, bribery in procurement stands out as a particularly pressing concern due to its central role in sourcing critical resources. Procurement involves cultivating relationships with suppliers, which, if exploited, can lead to corrupt practices like awarding contracts in exchange for kickbacks or bribes. Additionally, the significant financial transactions associated with procurement make it an attractive target for corrupt activities. Recent years have witnessed a growing number of corrupt practices within supply chains, commonly referred to as supply chain corruption (SCC) practices (Silvestre et al., 2020). These practices, primarily occurred in procurement processes, bring about financial and reputational consequences for implicated suppliers and buyers. However, there is a significant research gap in exploring SCC, particularly from the perspectives of operations and supply chain management (OSCM) (Arnold et al., 2012; Castro et al., 2020). Although supply chain relationships are fertile grounds for corruption, a comprehensive exploration in this critical domain is lacking (Castro et al., 2020; Silvestre et al., 2018; Silvestre et al., 2020).

This PhD thesis addresses both practical and academic imperatives by systematically investigating SCC, with a specific focus on bribery in procurement. The aim of this thesis is to enhance understanding and inform strategies for combating SCC by delving into the antecedents, outcomes, and countermeasures. Consequently, the refined research questions (RQs) are as follows:

- RQ 1: What are the underlying motivations and factors that drive suppliers to engage in SCC with employees of focal firms?
- RQ 2: How do SCC practices affect the stock returns of bystander supply chain partners and industry peers?
  - RQ 2.1: How do SCC practices influence the stock returns of bystander supply chain partners who are not involved in the SCC practices but linked to the dishonest firms through supplier-buyer ties?
  - RQ 2.2: How do SCC practices influence the stock returns of industry peers who are not involved in the SCC practices but linked to the dishonest firms through industry ties?
- RQ 3: What measures and theoretical underpinnings are effective to combat SCC?



- RQ 3.1: What collective actions are taken by multiple stakeholders to combat SCC?
- RQ 3.2: What are the theoretical underpinnings of the measures implemented to mitigate SCC, and how can these theories contribute to guiding future efforts in combating SCC?

The study employs various theories, including rational action theory and institutional theory for explaining antecedents, attribution theory and signaling theory for testing outcomes, and justice theory for informing countermeasures. The research methods encompass case study and event study. Key findings encompass motivations behind SCC practices at both organizational and isomorphic levels. Organizational motivations include financial, reputational, and relational imperatives, while isomorphic factors include competitive isomorphism, coercive isomorphism, mimetic isomorphism, and normative isomorphism. As for outcomes, the thesis underscores that SCC practices negatively affect stock returns of corrupt firms' bystander supply chain partners, particularly impacting bystander buyers. However, SCC practices do not significantly impact stock returns of corrupt firms' industry peers. Effective countermeasures entail interaction between focal firms (FFs) and government agencies, collective supply chain actions, FF-NGO (non-government organization) collaborations. In addition, Formal justice (FJ), justice in supply chains, and substantive justice (SJ) provide theoretical foundations for countermeasures against SCC.

In summary, this thesis contributes to the literature and practice by:

- Exploring SCC antecedents from the supply side perspective and offering a theoretical basis for future research in this area.
- Investigating spillover effects of SCC and introducing supplier-buyer relationships as a new channel for organizational misconduct spillover.
- Proposing justice theory as a novel theoretical perspective to combat SCC, providing guidance for practitioners and OSCM scholars in their further efforts in combating SCC.
- Equipping practitioners and scholars with comprehensive insights into SCC's antecedents, outcomes, and countermeasures, fostering effective mitigation and combat strategies.

In conclusion, this thesis provides valuable knowledge for both practitioners and OSCM scholars, facilitating an enhanced understanding of SCC in procurement, thereby contributing to compliant and ethical operating practices within supply chains and promoting social justice.

# DANSK RESUME

Korruption er en gennemgående udfordring i alle aspekter af forretninger i forsyningskæden, der spænder over indkøb, produktion, distribution og markedsføring (UN Global Compact, 2010). Blandt disse er bestikkelse i indkøb særligt bekymrende på grund af dens centrale rolle i at skaffe kritiske ressourcer til en virksomheds drift. Indkøb indebærer opbygning af relationer med leverandører som kan udnyttes til korrupte praksisser, som tildeling af kontrakter i bytte for bestiktelser og returkommissioner. Derudover gør de betydelige økonomiske transaktioner forbundet med indkøb det til et attraktivt mål for korrupte aktiviteter. De seneste år har der været en stigning i antallet af korrupte praksisser inden for forsyningskæder, der almindeligvis omtales som værdikæde korruption (Supply Chain Corruption - SCC) (Silvestre et al., 2020). Disse praksisser, der primært er koncentreret omkring indkøbsprocesser, medfører finansielle og omdømmemæssige konsekvenser for involverede leverandører og købere. Ikke desto mindre er der stadig en betydelig mangel på forskning om det, især fra perspektiver inden for styring af drift og forsyningskæder (Arnold et al., 2012; Castro et al., 2020). På trods af indikationer om at relationer i forsyningskæder er underlagt en høj risiko for korruption, mangler der stadig omfattende udforskning inden for dette kritiske område (Silvestre et al., 2018; Silvestre et al., 2020). Dette ph.d.-projekt imødekommer både praktiske og akademiske krav ved en systematisk undersøgelse af SCC med fokus på bestikkelse i indkøb. Formålet er at forbedre forståelsen og informere strategierne for bekæmpelse af SCC. For at udfylde disse forsknings mangler går dette projekt i dybden med hvad forgængere til SCC, hvad SCC resulterer i, og hvordan SCC forhindres. Som følge heraf er forskningsspørgsmålene (RQs) disse:

- RQ 1: Hvad er de underliggende motiver og faktorer, der får leverandører til at engagere sig i SCC med medarbejdere fra focale virksomheder?
- RQ 2: Hvordan påvirker en virksomheds SCC-praksisser aktieafkastet for andre virksomheder i forsyningskæden og branchekolleger?
  - RQ 2.1: Hvordan påvirker en virksomheds SCC-praksisser aktieafkastene for andre virksomheder i forsyningskæden, der ikke er involveret i SCC-praksisser, men er forbundet med uærlige virksomheder gennem leverandør-kunde-forhold?
  - RQ 2.2: Hvordan påvirker en virksomheds SCC-praksisser aktieafkastene for branchekolleger, der ikke er involveret i SCC-praksisser, men er forbundet med uærlige virksomheder gennem brancheforbindelser?
- RQ 3: Hvilke foranstaltninger og teoretiske grundlag er effektive til bekæmpelse af SCC?

- RQ 3.1: Hvilke kollektive foranstaltninger træffes af flere interessenter for at bekæmpe SCC?
- RQ 3.2: Hvilke teoretiske grundlag for de foranstaltninger, er der implementeret for at mindske SCC, og hvordan bidrager disse teorier til at guide fremtidig bekæmpelse på SCC?

Studiet anvender forskellige teorier, herunder rational action theory og institutional theory for at forklare forgængere til SCC, attribution-theory og signaling theory for at belyse resultater, og justice theory for at informere om modforholdsregler. Forskningsmetoderne inkluderer case-studier og begivenhedsstudier. Hovedresultater omfatter motivationsfaktorer bag SCC-praksisser på både organisations- og institutionsniveau. Organisationsmæssige motivationsfaktorer omfatter finansielle, omdømmemæssige og relationelle hensyn, mens institutions faktorer omfatter konkurrencebetinget isomorfisme, tvangsmæssig isomorfisme, mimetisk isomorfisme og normativ isomorfisme. Med hensyn til resultater fremhæver afhandlingen, at en virksomheds SCC-praksisser har en negativ indvirkning på aktieafkastene for andre virksomheder i forsyningskæden, især for købere. SCC-praksisser påvirker dog ikke signifikant aktieafkastene for korrupte virksomheders branchekolleger. Effektive modforholdsregler involverer samarbejde mellem focale virksomheder (FF'er) og offentlige myndigheder, kollektive forsyningskæde foranstaltninger og samarbejde mellem FF'er og NGO'er (ikke-statslige organisationer). Formel retfærdighed, retfærdighed i forsyningskæder og substantiel retfærdighed giver teoretiske grundlag for modforholdsregler mod SCC.

For at opsummere, denne afhandling bidrager til litteraturen og praksis ved at:

- Udforske forgængere til SCC fra forsyningskildens perspektiv og foreslå en teoretisk basis for fremtidig forskning på dette område.
- Undersøge spillover-effekter af SCC og introducere leverandør-kunde-forhold som en ny kanal til spredning af organisationsmæssig misligholdelse.
- Foreslå retfærdighedsteorien som et nyt teoretisk perspektiv til bekæmpelse af SCC og give vejledning til praktikere og OSCM-forskere i deres fremtidige bestræbelser på at bekæmpe SCC.
- Udstyre praktikere og forskere med omfattende indblik i forgængere til SCC, resultater og modforholdsregler og fremme effektive strategier til bekæmpelse og forebyggelse.

Afslutningsvis giver denne afhandling værdifuld viden både til praktikere og forskere, hvilket fremmer en forbedret forståelse af SCC i indkøb og dermed fremmer overensstemmelse og etiske drifts praksisser inden for forsyningskæder og fremmer social retfærdighed.

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Geng Wang

August 15, 2023

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# LIST OF PAPERS

## THESIS CONTRIBUTION

- Paper 1.** Wang, G. and Cheng, Y., “Business corruption: A systematic review and future agenda”, manuscript.
- Paper 2.** Wang, G., Cheng, Y., & Wang, Y. (2022). Exploring the motivations for corruption from a supply-side view in Chinese private procurement. In 29th International Annual EurOMA Conference, Berlin, Germany.
- Paper 3.** Wang, G., Xiong, Y., Cheng, Y., and Lam, H.K.S. (2023), “The spillover effects of supply chain corruption practices on stock returns”, International Journal of Operations & Production Management, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/IJOPM-11-2022-0760>
- Paper 4.** Wang, G., Cheng, Y., and Lam, H.K.S. “Fighting supply chain corruption: A justice perspective”, submitted to and in review process with International Journal of Operations & Production Management (Presented at 33<sup>rd</sup> POMS Annual Conference, Orlando, Florida, USA).

## OTHER WORKS

- Paper 5.** Lindhard, S.M., Lassen, A.H., Cheng, Y., Musso, M., Wang, G. and Bai, S., “The Potential of Exoskeletons in Construction: Barriers and Challenges”, submitted to and in review process with Construction Innovation: Information, Process, Management.

# LIST OF ABBREVIATIONS

AR	Abnormal Return
CAR	Cumulative Abnormal Return
CJO	China Judgments Online
CSMAR	China Stock Market & Accounting Research
DJ	Distributive Justice
ESG	Environmental, Social, and Corporate Governance
FFs	Focal Firms
FJ	Formal Justice
IJ	Interactional Justice
NGOs	Non-government Organizations
OSCM	Operations and Supply Chain Management
PJ	Procedural Justice
SJ	Substantive Justice
R&D	Research and Development
RO	Research Objective
RQ	Research Question
SCC	Supply Chain Corruption
UN	United Nations
UNGC	United Nations Global Compact



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# CHAPTER 1. INTRODUCTION

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*“Fewer studies focus on inter-firm corruption in supply chains and we believe there is a real opportunity for researchers to examine this important area. A growing body of research has begun to develop looking at the dark side of business-to-business practices, and one interest of these researchers is corruption in supply chains (Sharma, 2020). But much more work is needed.” (Castro et al., 2020)*

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The issue of corruption within supply chains has gained considerable attention in recent years, posing a significant challenge and taking center stage on the minds of business leaders and boards of directors (UN Global Compact, 2016). The negative financial and reputational impacts of SCC are far-reaching. FFs and their supply chain partners suffer significant financial losses when corrupt practices infiltrate their operations (Kim and Wagner, 2021; Wang et al., 2023). Additionally, the reputation and trust of FFs are severely damaged, leading to enduring consequences for their market position and overall sustainability. Beyond financial implications, SCC undermines social justice by exacerbating societal disparities and inequities (You, 2007). Despite the urgency of addressing the issue, academic research has been perceived as relatively slower in identifying the underlying causes and outcomes and proposing effective solutions (Ashforth et al., 2008). It is essential for academic research to proactively engage with this issue in order to comprehend the causes and outcomes of SCC and propose effective solutions. Therefore, this research sheds light on the complexities of the phenomenon and generate actionable insights to inform the implementation of anti-corruption strategies in the supply chain context.

## 1.1. PRACTICAL PROBLEM

In recent years, an increasing number of SCC practices have occurred in both developing and developed markets, grabbing the headlines of major news outlets. The phenomenon has drawn attention due to its detrimental impact on businesses and the overall integrity of supply chains, undermining the transparency, fairness, and efficiency of supply chain operations and terminating long-term supplier-buyer relationships. UN Global Compact (2016) stated the undesirable consequences of SCC as follows:

*“The direct costs of this corruption are considerable, but are often dwarfed by the indirect costs related to management time and resources dealing with the issues, such as legal liability and irreparable damage to*

*a company's reputation with both tangible financial and intangible long-term stakeholder consequences."*

An illustrative example of SCC is the case involving DJI, a prominent global drone manufacturer. Within DJI, corruption was found to have permeated various departments, including research and development (R&D), procurement, and quality control departments. Corrupt employees received substantial sums, totaling over three million RMB, from a potential supplier. In exchange for these illicit payments, they facilitated the supplier's inclusion in DJI's supplier list and ensured the receipt of additional orders. Consequently, the corrupt practices had significant consequences for DJI. The average purchase price of DJI's products experienced a conservative increase of at least 20% in 2018. This increment, attributable to the corrupt behavior, resulted in a substantial financial loss for the company, surpassing one billion RMB (DJI Newsroom, 2019). The example highlights how SCC practices can profoundly impact the financial performance of a well-established company and underscores the importance of preventing and mitigating corruption within supply chains to safeguard the integrity, efficiency, and sustainability of business operations.

Another example is Tencent, a major technology conglomerate. In 2021, Tencent identified and blacklisted 13 suppliers who had engaged in bribery with Tencent employees. Because of their unethical behavior, the supplier-buyer relationships between Tencent and these 13 suppliers were terminated (Reuters, 2022). Tencent's proactive response in naming and blacklisting these suppliers demonstrates their commitment to maintaining integrity within their supply chains. By taking such action, Tencent sent a strong message that corruption will not be tolerated, and those who engage in such practices will face consequences. This case serves as an important reminder that engaging in SCC can result in the termination of supplier-buyer relationships. When instances of corruption come to light, suppliers involved in unethical practices risk not only reputational damage but also the loss of important business relationships.

Indeed, SCC practices are not limited to the private sector but also extend to public procurement involving government officials and other public actors. Public procurement, which involves the acquisition of goods, services, or construction projects by governmental entities, is particularly susceptible to corrupt practices due to its large-scale transactions and complex decision-making processes. In public procurement, SCC can take various forms, including bribery, bid rigging and embezzlement. Government officials or public actors may abuse their positions of power and influence to manipulate the procurement process, granting undue advantages to certain suppliers in exchange for personal gain. For instance, between 2010 and 2013, employees of GSK's China subsidiary were found to have engaged in bribery, offering illicit payments to Chinese healthcare professionals to exert undue influence and increase sales of their products. Following the exposure of the scandal, GSK faced significant consequences. In China, the company was required to pay a fine of 489 million dollars, while in the United States, an additional fine of 20 million

dollars was imposed (Sullivan, 2018). These penalties reflect the severity of the corrupt practices and the regulatory response to address them. The bribery scandal had broader implications beyond financial penalties. Because of the corrupt behavior, GSK's products in mainland China were priced significantly higher compared to other countries and regions. This inequitable pricing contributed to a distributional imbalance in resources and opportunities, disadvantaging Chinese consumers and exacerbating social and economic inequalities, thereby undermining social justice.

In addition, the Siemens SCC scandal is one of the most infamous cases of corporate corruption in modern history. In the early 2000s, it was revealed that Siemens, a German multinational conglomerate, had been involved in a vast and sophisticated corruption scheme spanning several years. The scandal became known in 2006 when German authorities began investigating suspicious financial transactions within Siemens. The investigation uncovered a widespread system of bribery and corruption involving the company's supply chain operations. Siemens employees were found to have paid bribes to secure contracts, gain preferential treatment, and ensure business advantages in various countries around the world. The corruption within Siemens' supply chain extended to numerous sectors, including telecommunications, energy, and transportation. The bribes were often disguised as consultancy fees or commissions, and shell companies were used to facilitate the illicit payments, making it difficult to trace the funds. The corrupt practices not only undermined fair competition but also eroded trust in the integrity of Siemens as a reputable global company. As a result of the investigation, several Siemens executives were prosecuted and convicted for their involvement in the corruption. Siemens itself faced significant financial penalties in various jurisdictions (Schubert and Miller, 2008). The scandal led to considerable damage to the company's reputation and extensive efforts to rebuild trust with stakeholders.

The above anecdotal evidence highlights the undesirable consequences of SCC, emphasizing the importance of understanding this phenomenon and developing effective countermeasures. Furthermore, the evidence implies that SCC practices occur in both public and private procurement processes. In public procurement, firms are on the supply side of corruption. This means they may offer bribes or engage in corrupt practices with government officials to secure contracts or favorable treatment. In private procurement, firms can play dual roles, representing both the supply side and demand side of SCC practices. This means they might either offer to or receive bribes from their supply chain partners. This research is framed from the perspective of the firms instead of government officials. In this research, firms can exhibit varying positions within the SCC practice, assuming roles as the supply side, or assuming a dual role, participating in both the supply and demand sides of SCC, depending on the context.

## 1.2. RESAERCH THEMES

The primary objective of this section is to undertake a systematic and comprehensive literature review that encompasses both business corruption and SCC within the academic domain. Illustrated in Figure 1, the chapter initiates with an in-depth review of the existing literature on business corruption, drawing upon the insights and findings presented in Paper 1. This review critically evaluates the current state of knowledge, identifies key themes, theoretical frameworks, and empirical studies related to business corruption, pointing out the opportunities and imperatives in studying SCC. Building upon this foundation, the chapter then proceeds to delve into the specific context of SCC by examining the available literature. This review assesses scholarly contributions and advancements made in understanding SCC. By critically analyzing and synthesizing the literature on SCC, specific research gaps and limitations within the existing body of knowledge are identified.

This section contributes to the scholarly understanding of business corruption and SCC and lays the groundwork for the subsequent empirical investigations. It provides a solid knowledge base that informs the research questions (RQs) and objectives.

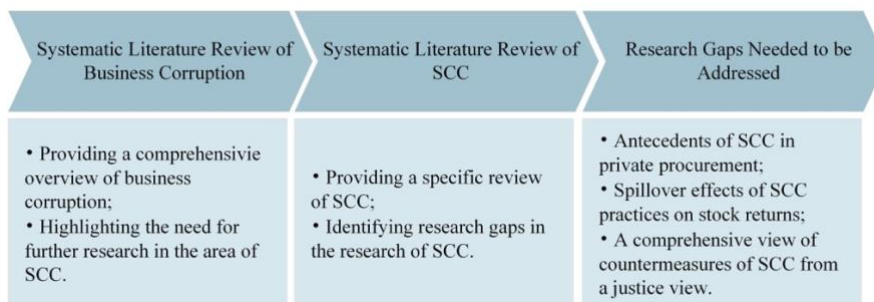


Figure 1 Overview of the section of research themes

### 1.2.1. PAPER 1: RESEARCH THEMES IN BUSINESS CORRUPTION

The detrimental consequences of business corruption on firms and society have prompted extensive scholarly attention towards understanding and mitigating this issue. However, the focus on inter-organizational corruption within supply chains remains relatively limited, indicating a significant research gap in this area (Castro et al., 2020). While some researchers have started to explore the dark side of business-to-business practices, with a particular interest in corruption within supply chains, there is still a need for further investigation. The existing body of research highlights the urgency for additional studies to delve deeper into this important domain (Arnold et al., 2012; Sharma, 2020; Silvestre et al., 2020).

Due to the paucity of literature on SCC, we chose to commence the literature review by adopting a broader scope, namely business corruption. The review of business corruption provides an in-depth examination of the current state of literature in this field. We conducted a systematic review of 98 peer-reviewed papers published in reputable journals, systematically analyzing and integrating them based on the categorizations of private-to-public corruption and private corruption. Private-to-public corruption and private corruption are both forms of corruption practices, but they differ in the nature of the actors involved and the context in which the corruption occurs. Private-to-public corruption refers to corrupt practices where private individuals or entities engage in corrupt acts with public officials to gain unfair advantages, such as securing government contracts, permits, or favorable policies. Examples including bribing government officials to overlook regulatory violations, award contracts without a fair bidding process, or expedite administrative procedures. Private corruption, also known as commercial or corporate corruption, occurs within the private sector. This type of corruption can be categorized into two distinct subtypes: corruption within business corruption and private-to-private corruption. Given the central focus of this thesis on SCC, a form of interorganizational corruption, our attention is primarily directed towards the domains of private-to-public and private-to-private corruption, thereby ensuring a comprehensive examination of relevant literature. Private-to-private corruption is between businesses or individuals without the direct involvement of public officials. Argandoña (2003) define it as below:

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*This is the type of corruption that occurs when a manager or employee exercises a certain power or influence over the performance of a function, task or responsibility within a private organization or corporation. Because he has a margin of discretion, he can choose to act contrary to the duties and responsibilities of his post or job, and thus in a way that directly or indirectly harms the company or organization, for his own benefit or for that of another person, company or organization.*  
 Argandoña (2003: 255)

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In this form of corruption, private entities engage in corrupt acts to gain undue advantages over their competitors or business partners. Examples include bribery between private companies to secure favorable deals, manipulate contract negotiations, or gain access to confidential information. While both forms of corruption involve unethical and illegal practices, private-to-public corruption involves collusion between private actors and government officials, impacting public governance and administration. Private-to-private corruption, on the other hand, is more focused on corrupt practices within the business environment, affecting fair competition and business integrity. Therefore, understanding the distinctions between

these two types of corruption is essential in designing effective anti-corruption measures and promoting ethical conduct both in the public and private sectors.

To facilitate a clear understanding of the systematic literature review procedure, we present a detailed depiction of the process in Figure 2. This comprehensive review serves as a crucial foundation for our exploration of SCC. The identified research gap in SCC is substantiated by our systematic literature review on business corruption. This finding reinforces the theoretical imperative behind selecting SCC as the topic for this PhD research.

Our approach is rooted in the well-established systematic literature review method commonly employed in the field of business and management (Chhabra et al., 2021; Scheaf and Wood, 2021). A systematic literature review entails a methodical, transparent, and reproducible process for identifying scholarly literature pertaining to a well-defined topic and RQ (Fisch and Block, 2018: 103). To guide our work, we adhered to the procedures established by previous systematic literature reviews (Cheng et al., 2015; Scheaf and Wood, 2021). First and foremost, we established the research objectives (ROs) and defined the conceptual boundaries in accordance with the RQs presented in the introduction, as depicted in Figure 2. Subsequently, we maintained consistency by focusing on corrupt acts rather than the broader context of conducting business. Our inclusion criteria comprised solely peer-reviewed journal articles encompassing both empirical and conceptual research. Next, we initiated the search and selection process, adhering to a five-step approach outlined in detail below.

1) Identification of the journal set: To facilitate article identification, we established a journal set based on the 2021 Association of Business Schools (ABS) guide. This ensured the inclusion of highly regarded journals in relevant disciplines such as general management, ethics, operations and technology management, organizational studies, strategy, and more. The final journal set comprised 124 journals ranked 3, 4, or 4\* in their respective fields.

2) Literature searching: Following a topic-driven approach, we formulated search terms by integrating keywords from Castro et al. (2020) and aligned them with our research scope. Terms like corrupt\*, bribe\*, kickbacks\*, nepotism\*, and embezzlement were used. Using Boolean operators and truncations, we conducted a thorough search across the 124 selected journals. No time restriction was applied.

3) Screening titles and abstracts: Titles, keywords, and abstracts were carefully reviewed to confirm relevance to the review scope. Only papers explicitly discussing business corruption were included, with corruption in government organizations or at the sector or country level considered beyond the scope. This screening process resulted in 191 studies moving forward to the next step.



4) Selecting full-text papers: The 191 shortlisted articles underwent a detailed assessment to evaluate their research contributions and thematic alignment. Two authors independently reviewed the full papers, ensuring a fair and unbiased selection process. Any disagreements were resolved through discussion until consensus was reached. Ultimately, 98 studies were identified as fitting the research criteria.

5) Hand searching: Hand searching and citation tracking were performed to supplement the systematic search strategy. However, no additional topic-related articles were found within our journal set.

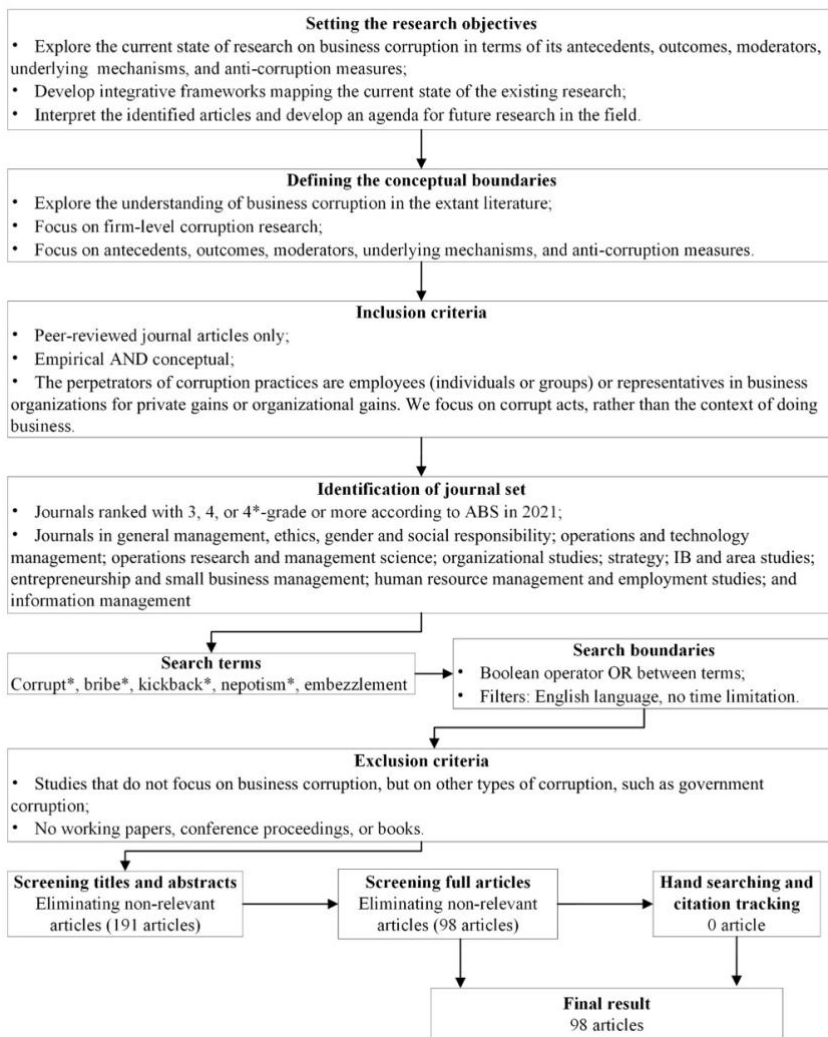


Figure 2 The systematic literature review procedure

In our study, we conducted a comprehensive review of the antecedents, outcomes, and anti-corruption measures pertaining to private-to-public corruption and private-to-private corruption. The analysis of these aspects served as the foundation for developing a micro-meso-macro framework, which elucidates the interrelationships among different dimensions of private-to-public corruption and private-to-private corruption, as illustrated in Figure 3. At the micro-level, the analysis primarily centers on individual choices and the local decision-making environment (Dopfer et al., 2004), considering factors such as organizational members' perceptions, attention, and decision-making logic (Locke, 2000). Moving to the meso level, this perspective encompasses the interconnectedness, interactions, and ongoing coordination among various social actors, with a specific focus on networks, groups, and organizations. Within our study, we examine both the organizational and industrial levels, exploring the dynamics and influences within these contexts. Lastly, the macro-level perspective adopts a broader societal lens, examining large-scale social interactions that encompass institutions, social classes, and entire societies (Robertson, 2020).

By integrating the micro, meso, and macro levels of analysis, our framework offers a comprehensive understanding of both private-to-public corruption and private corruption, recognizing their multidimensional nature and interconnectedness. The existing literature has primarily focused on examining the factors that influence the involvement of business organizations in private-to-public corruption. At the micro level, scholars have explored individual perceptions (Baron et al., 2018; Dickel and Graeff, 2018; Gorsira et al., 2018a), social-psychological factors (Powpaka, 2002; Rabl and Kühlmann, 2008), and personal relationships (De Jong et al., 2015) as significant determinants. At the organizational level, factors such as ownership structure (Lee et al., 2010; Yi et al., 2018), performance (Lopatta et al., 2017; Wu, 2005; Xu et al., 2019), control mechanisms (Chen et al., 2015; Zhou et al., 2013), perceived constraints (Lopatta et al., 2017; Martin et al., 2007; Zhou et al., 2013), and firm size (Nguyen, 2020) have been identified as influential factors at the organizational level. In the industrial context, industry competition (Martin et al., 2007; Ufere et al., 2020; Venard, 2009; Venard and Hanafi, 2008) and corrupt behaviors by competitors (Venard, 2009; Venard and Hanafi, 2008) have been examined. Additionally, research at the macro level has focused on governmental factors (Gao, 2011; Tonoyan et al., 2010; Zhou et al., 2013), institutional contexts (Martin et al., 2007; Tonoyan et al., 2010; Ufere et al., 2020; Venard and Hanafi, 2008; Zhou and Peng, 2012), and national culture (Baughn et al., 2010; Gorsira et al., 2018a; Martin et al., 2007; Spencer and Gomez, 2011; Tonoyan et al., 2010) in shaping corrupt behaviors. In contrast, we only identified one study (Ramamoorthy et al., 2015) that explores the antecedents of private-to-private corruption, exploring the roles of an individual's sensitivity to employees of the firm/customers and perceptions of organizational justice in initiating corruption practices.

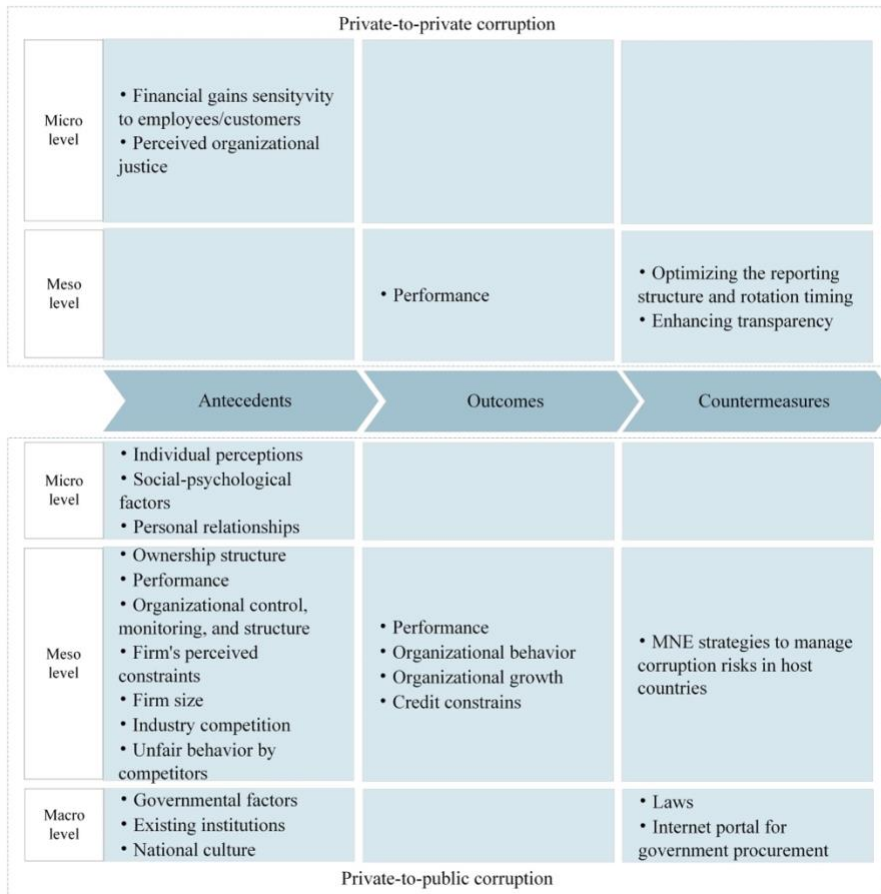


Figure 3 A multilevel framework of business corruption

All the studies included in our literature review, within the defined parameters, have examined the outcomes of private-to-public corruption at the meso (organizational) level. These studies have predominantly focused on four key categories of outcomes: performance (De Jong et al., 2012; Krammer, 2019; Van Vu et al., 2018; Xie et al., 2019), organizational behaviors (Birhanu et al., 2016; Lee and Weng, 2013; Qi et al., 2020; Wang et al., 2014), organizational growth (Luo, 2002; Zhou and Peng, 2012), and credit constraints (Wellalage et al., 2019; Wellalage et al., 2020), as illustrated in the middle panel of Figure 3. In addition, we also identified one study that explored the outcome of private-to-private corruption. Hung (2008) conducted a study on a particular corruption practice known as “Chinese enterprises small treasuries”. The author examined the detrimental impacts of these practices on organizational performance, including issues such as moral hazard among managers, resource allocation, sustainability of strategic advantages, growth, and mismanagement within organizations. It is notable that Kim and Wagner (2021) considered both private-to-public corruption and private corruption and provided evidence of the negative

reaction of the stock market to corruption risks in supply chains. They also proposed that investors tend to respond more negatively to upstream corruption risks compared to downstream corruption risks. This is attributed to the perception that focal firms have greater power or are fully complicit in upstream corruption events, as observed by external stakeholders.

Existing research has investigated measures to address private-to-public corruption at both the meso (organizational) and macro levels. At the meso level, two studies (Hauser and Hogenacker, 2014; Stevens and Newenham-Kahindi, 2021) have focused on corruption management strategies aimed at preventing and managing corruption in global operations. On the other hand, at the macro level, several studies (Lennerfors, 2007; Miroslav et al., 2014; Pitman and Sanford, 1994; Weber and Getz, 2004) have explored the role of legislative acts and tools in combating private-to-public corruption. These studies highlight the importance of developing legal frameworks and regulatory mechanisms to address corruption effectively. Additionally, at the meso level, the discussion includes two corruption control measures specifically targeting private-to-private corruption. These measures encompass optimizing the reporting structure and rotation timing (Bishara and Schipani, 2009; Perla et al., 2018) and enhancing transparency (Halter et al., 2009).

Through a comprehensive analysis and synthesis of the existing literature, this study has identified several research gaps in the domain of business corruption. Firstly, the current literature predominantly focuses on the antecedents of private-to-public corruption, with an emphasis on the supply side of corruption represented by companies. Only one study has examined the roles of financial gains sensitivity to employees/customers and perceived organizational justice in initiating private-to-private corruption, thereby leaving a significant research gap in understanding the antecedents of private-to-private corruption. Secondly, while the outcomes of private-to-public corruption have been explored to some extent, the literature lacks in-depth investigations into the outcomes of bystander firms that are not directly involved in corrupt behaviors, highlighting a crucial research gap in this area. Thirdly, although some studies have explored anti-corruption measures, there is a pressing need for a comprehensive perspective that encompasses various stakeholders to propose effective measures to combat corruption. Finally, the exploration of corruption in supply chains, a form of inter-organizational business corruption, has received limited attention in academic research. While corruption has been extensively studied in various contexts, such as government, public sector, and corporate settings, relatively little attention has been paid to corruption in the supply chain context. By addressing these research gaps, this PhD research aims to enhance the understanding of SCC and contribute to the development of effective strategies and interventions to combat this pervasive issue. Building upon a systematic literature review of business corruption, we propose a set of preliminary RQs related to SCC, as presented in Table 1. Based on these RQs, the research will further refine and clarify the RQs by specifically examining the literature on SCC.

Table 1 Research themes and questions related to SCC

Research themes	Research questions
<b>Antecedents</b>	<ul style="list-style-type: none"> <li>• What factors influence suppliers, as the supply side of corruption, to offer bribes to their customers?</li> <li>• What factors influence customers, as the demand side of corruption, to demand bribes from their suppliers?</li> </ul>
<b>Outcomes</b>	<ul style="list-style-type: none"> <li>• If a supplier engages in the corruption practice with a purchasing manager, how costly would supply chain disruption be for the customer company?</li> <li>• What are the operational risks of such a disruption?</li> <li>• How will corruption practices influence supply chain configuration and coordination?</li> <li>• For the supplier, what are the risks to its reputation if such a corrupt act is discovered by customers?</li> <li>• If a firm engages in SCC, will its supply chain partners be influenced by the corruption practice?</li> </ul>
<b>Countermeasures</b>	<ul style="list-style-type: none"> <li>• How emerging technology adopted by companies to mitigate SCC? What is the role of blockchain in preventing corruption in public procurement?</li> <li>• How to combat SCC through collective actions among multiple stakeholders?</li> </ul>

### 1.2.2. RESEARCH THEMES IN SUPPLY CHAIN CORRUPTION

A growing body of literature, including three main research streams, addresses corruption in the context of supply chains. The first stream focuses on the causes of SCC. Silvestre et al. (2018) stated that in turbulent corporate situations, stakeholder participation combined with a profit-maximizing managerial strategy can lead to opportunistic conduct and corruption. Arnold et al. (2012) explored organizational-level factors that influence a firm's engagement in SCC, such as organizational complexity, corporate culture, internationality, and functional complexity. Ntayi et al. (2013) investigated the relationship between moral schemas and corruption in public procurement from the perspective of public procurement staff that represent the demand side of corruption. However, to our knowledge, there is a lack of research examining the antecedents of SCC from a supply-side perspective in the context of private procurement.

The second stream examines the outcomes of SCC. We identified two relevant studies in this research stream. First, Kim and Wagner (2021) explored the effects of SCC on

stock returns of firms involved in SCC. In addition, Silvestre et al. (2020) found that SCC have an adverse impact on sustainability performance. However, there is a lack of research into the spillover effects of SCC practices. In this PhD research project, we aim to address this gap by comprehensively investigating the stock price effects of SCC practices on supply chain partners and industry peers that are not involved in SCC practices directly but linked with corrupt firms by supplier-buyer relationships or industry ties.

The third stream centers on countermeasures of SCC. For instance, transparency is identified as an effective tool in fighting SCC to promote ethical behavior in purchasing activities (Halter et al., 2009). In addition, we have identified two studies addressing countermeasures in public procurement. Using semantic technologies, Miroslav et al. (2014) made it possible to manipulate machine data and identify potential unethical transactions in public procurement in an early stage. Furthermore, Padhi et al. (2016) demonstrated that government procurement auction collusion can be significantly decreased by designing auction parameters. However, existing literature in this area primarily focuses on specific measures employed within firms, without considering collective actions in fighting SCC that involves multiple stakeholders.

After identifying the specific research gaps in the literature on business corruption and SCC, we proceed to refine and clarify our research aims and RQs in Section 1.3.

### **1.3. RESEARCH AIMS, OBJECTIVES, AND QUESTIONS**

Considering both the practical and theoretical imperatives, the primary aim of this thesis is to enrich the body of knowledge by offering comprehensive insights into SCC. This endeavor seeks to delve into the antecedents, outcomes, and countermeasures associated with SCC. By doing so, it provides a deep comprehension of SCC. Such knowledge not only empowers practitioners to make informed decisions but also assists policymakers in crafting effective regulatory frameworks. Furthermore, it contributes to the scholarly discourse by advancing our theoretical understanding of SCC. Ultimately, the overarching goal is to catalyze the creation of a more sustainable and ethical business world where foster transparency, integrity, and accountability within supply chains, thereby promoting compliant operating practices and social justice.

This thesis encompasses three primary objectives. Firstly, it aims to investigate the antecedents of upstream SCC from a supply-side perspective in private procurement. Secondly, it aims to provide empirical evidence substantiating the claim that SCC practices have spillover effects on stock returns of supply chain partners and industry peers that are not directly involved in SCC but linked with corrupt firms with supply chain partner ties or industry ties. Finally, it aims to explore collective actions among

multiple stakeholders and the underlying theoretical framework to effectively combat SCC. To achieve these objectives, this thesis will examine five main RQs of SCC:

RQ 1: What are the factors that drive suppliers to engage in SCC with employees of focal firms in private procurement?

RQ 2: How do SCC practices affect the stock returns of bystander supply chain partners and industry peers?

- RQ 2.1: How do SCC practices influence the stock returns of bystander supply chain partners who are not involved in the SCC practices but linked to the dishonest firms through supplier-buyer ties?
- RQ 2.2: How do SCC practices influence the stock returns of industry peers who are not involved in the SCC practices but linked to the dishonest firms through industry ties?

RQ 3: What are the collective actions and theoretical underpinnings for multiple stakeholders to combat SCC?

- RQ 3.1: What collective actions are taken by multiple stakeholders to combat SCC?
- RQ 3.2: What are the theoretical underpinnings of the collective actions implemented to mitigate SCC, and how do these theories contribute to guiding future efforts in combatting SCC?

## 1.4. RESEARCH SCOPE

As mentioned above, the supply chain is susceptible to various forms of corruption, with bribery in procurement being a particularly significant risk. This type of corruption often involves collaboration between suppliers and employees of the customer organization. Additionally, suppliers may engage in corrupt practices that involve government entities and other public actors (UN Global Compact, 2016). In light of these considerations, this research specifically focuses on corruption practices within the procurement process, encompassing both the private and public sectors. In this thesis, Paper 2 and 3 focus on corruption in private corruption while Paper 4 focuses on corruption in both private and public corruption. The main manifestations of corruption in this context include bribery, kickbacks, benefit fees, and extortion. By directing attention to these specific forms of corruption, the research aims to enhance the understanding of SCC and develop strategies to combat corruption within the procurement phase of the supply chain.

In general, the practice of corruption is a voluntary exchange of advantage and reward that takes place by mutual consent between the supply side, which induces or initiates the corrupt exchange, and the demand side, which accepts it (Park, 2003; Rabl and

Kühlmann, 2008). In our research, we adopt a comprehensive approach by choosing both the supply and the demand side of SCC as the units of analysis to gain a deeper understanding of SCC. The dynamics of power play a significant role in the realm of transactions, with buyers typically exerting more leverage than their supplier counterparts. This prevailing notion finds support in some studies (Chae et al., 2017; Wagner et al., 2011). As a result, suppliers, who represent the supply side of corrupt practices, might find themselves resorting to the strategy of offering bribes to buyers. Conversely, those on the buyer side of the equation, being the demand side of corruption, might actively seek bribes from their suppliers. Nevertheless, it's essential to consider scenarios where the usual power balance shifts. Particularly, suppliers with a stronghold on the market, as demonstrated by Kim and Wagner (2021), may hold an equal, even greater, influence over their buyers. In such cases, buyers, positioned as the supply side of SCC, could initiate bribe offers to ensure smooth transactions. Alternatively, suppliers, now positioned on the demand side of corruption, could demand bribes from buyers to secure the provision of key goods or services. This intricate interplay underscores the complexity of corrupt practices within varying power dynamics. However, our research contends that the former scenario, where suppliers offer bribes to buyers, is more prevalent in practice. Consistent to the findings of Kim and Wagner (2021), our analysis did not identify any instances of the latter scenario in our sample. Hence, our research primarily focuses on SCC where suppliers offer bribes to buyers to exert influence on purchasing decisions and gain unfair competitive advantages. The illicit practices create a corrupt link between the suppliers who provide the bribes and the buyers who receive them.

In the study conducted by Kim and Wagner (2021), a supply chain perspective of corruption was introduced, which encompasses both upstream SCC towards suppliers and downstream SCC towards customers. In this research, we have identified instances where corrupt suppliers were found to be involved in engaging in downstream SCC towards their customers, while corrupt buyers were found to be engaging in upstream SCC towards their suppliers. By investigating both upstream and downstream SCC practices, we aim to provide a comprehensive understanding of how corruption can permeate throughout the supply chain and impacting multiple stakeholders. Based on the understanding, we propose measures to combat SCC.

Specifically, as presented in Figure 4, Paper 2 examines upstream SCC, focusing on the supply side of corruption. It aims to identify and analyze the antecedents that contribute to the occurrence of SCC. By investigating the factors that facilitate corruption practices from suppliers towards buyers, this paper offers insights into understanding the root causes and motivations behind upstream SCC. Paper 3 expands the scope of analysis to encompass both upstream and downstream SCC practices, considering the supply and demand sides of corruption. It explores the spillover effects of SCC, investigating how corruption practices originating from both the supply and demand sides can impact financial performances of their supply chain partners and industry peers. Paper 4 takes a comprehensive approach by investigating both



upstream and downstream SCC practices from both the supply and demand sides, which focuses on strategies and measures to combat SCC.

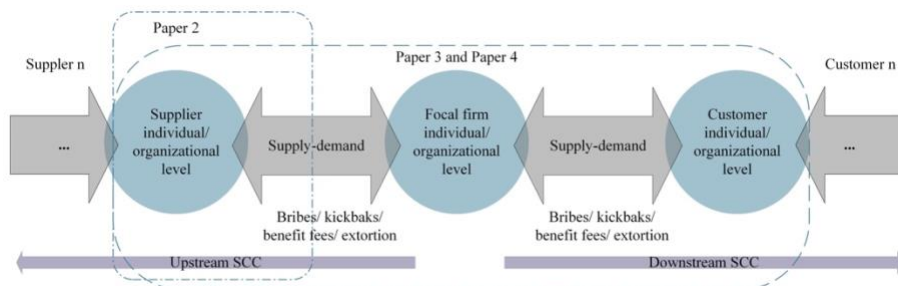


Figure 4 Research scope (adapted from Kim and Wagner, 2021)

## 1.5. OVERVIEW OF THE THESIS

This thesis is structured as a collection of papers, drawing upon three journal papers and one conference paper, collectively designed to tackle empirical challenges and address gaps in the existing knowledge base. These papers are appended as a reference. By adopting this format, the dissertation aims to present a comprehensive and multidimensional understanding of SCC, leveraging a range of empirical investigations and theoretical frameworks.

The acknowledgment of the interrelatedness among the individual papers is crucial, as they form a cohesive body of work that collectively contributes to the advancement of our understanding of SCC. Paper 1 presents a systematic literature review on business corruption, considering the scarcity of existing literature specifically focusing on SCC. While it may not directly address a specific RQ mentioned in Section 1.3, it sets the stage for the subsequent papers to delve into specific RQs related to SCC by providing a comprehensive overview of the current knowledge landscape and highlighting the need for further research around SCC. Building upon this foundation, Paper 2 and Paper 3 delve into the examination of the antecedents and outcomes of SCC, respectively. These empirical investigations offer valuable insights into the factors that contribute to the occurrence of corruption within supply chains and shed light on the spillover effects of SCC, which address RQ 1-3. Drawing on the insights gained from Papers 2 and 3, Paper 4 proposes collective actions and underlying theories to combat SCC, which address RQ 4-5.

Table 2 provides an overview of the papers included in this thesis, summarizing their respective contributions, and linking them to specific RQs. This table serves as a useful reference for readers, enabling them to navigate the content and understand the progression of ideas and findings presented throughout the thesis.

Table 2 Overview of included papers and their links to RQs

<p><b>Paper 1: Business Corruption: A Systematic Literature Review and Research Agenda</b></p> <p>In the business world, when business organizations engage in corrupt activities, they suffer considerable financial and reputational losses for themselves and their stakeholders. These corruption practices can be classified into three different categories according to perpetrators engaged: private-to-public corruption, private-to-private corruption, and corruption within organizations. Prior reviews on corruption in the management area have not focused on such a scope of corruption or examined extant literature according to different categories of corruption. To fill this gap, this study presents the state of the art of literature on corruption in business organizations by systematically reviewing 98 peer-reviewed papers published in reputable journals and integrating them according to the above categories. We aim to widen the existing understanding of corruption in business organizations by depicting a picture of relevant literature and finding out where we should go in this field. The main findings of our literature review on the antecedents, outcomes, underlying mechanisms, and anti-corruption measures of corruption in business organizations are further reported. Finally, we relate research gaps to opportunities and accordingly suggest five avenues for future research.</p>
<p><b>Paper 2: Exploring the Motivations for Corruption from a Supply-side View in Chinese Private Procurement (Address RQ 1)</b></p> <p>This paper provides a multilevel investigation of the motivations of supply chain corruption practices in private procurement in China from a supply-side perspective. Based on eight Chinese cases of supply chain corruption practices, we develop a theoretical model, which describes why companies engage in corrupt behaviors as a supply side of corruption. We show that the motivational drivers can be traced at two levels: the organizational and isomorphic levels. Drivers at the organizational level include financial, reputational, and relational imperatives. Drivers at the isomorphic level include competitive isomorphism and institutional isomorphism that further includes coercive, mimetic, and normative isomorphisms. This paper enriches the literature on the antecedents of private-to-private corruption from the supply side of corruption and provides a theoretical foundation for future research on supply chain corruption.</p>
<p><b>Paper 3: The Spillover Effects of Supply Chain Corruption Practices on Stock Returns (Address RQ 2-3)</b></p> <p>This study aims to explore the spillover effects of SCC practices on stock returns along the supply chain and within the industry. Specifically, it investigates how SCC practices affect the stock returns of corrupt firms' bystander supply chain partners and industry peers, both of which are not involved in the SCC practices.</p>

The authors employ the event study methodology to quantify SCC practices' spillover effects in terms of abnormal stock returns. The analysis is based on 117 SCC practices occurring in China between 2014 and 2021. The event study results show that SCC practices have negative effects on the stock returns of corrupt firms' bystander supply chain partners. Such negative effects are more pronounced for bystander buyers than bystander suppliers. However, SCC practices do not have a significant impact on the stock returns of corrupt firms' industry peers. Additional analysis further suggests that SCC practices are more likely to affect the stock returns of domestic rather than overseas bystander supply chain partners. This study is the first attempt to thoroughly examine the spillover effects of SCC practices along the supply chain and within the industry, advancing the understanding of the financial consequences of SCC practices and providing important implications for future research and practices related to SCC.

**Paper 4: Fighting Supply Chain Corruption: A Justice Perspective (Address RQ 4-5)**

This impact pathway paper aims to explore the practical challenges of combating SCC and how OSCM scholars and practitioners can help to address these challenges. This study collects archival data from multiple sources to conduct a case study on the measures implemented to combat SCC. It makes sense of these measures through justice theories. Combating SCC requires the involvement and collaborations of various parties including focal firms, supply chain members, government agencies, and NGOs. This study proposes four pathways for OSCM scholars and practitioners to better address SCC from the justice perspective. This research employs justice theories to provide a novel perspective on fighting SCC. It emphasizes the importance of involving and collaborating with different parties to better combat SCC.

Figure 5 visualizes the thesis structure, outlining the purpose of each chapter and the corresponding papers on which they are based. While the arguments and discussions in each chapter draw upon the published articles, the author has endeavored to present a comprehensive overview of the research and address certain gaps that are not directly covered in the published works, catering to the readers of this thesis.

As depicted in Figure 5, the thesis structure unfolds as follows: Chapter 1 introduces the practical problem, provides a comprehensive overview of the research landscape in business corruption and SCC, clarify research aims, define the research scope, and provides the overview of the thesis. Chapter 2 introduces relevant theories essential for understanding and combating SCC, engaging in theoretical and fundamental discussions. Chapter 3 presents the overall research design that guided the three-year PhD study, incorporating considerations of ontological and epistemological nature. Chapter 4 summarizes the results based on two journal papers and one conference paper, serving as the primary research findings related to the antecedents, outcomes, and countermeasures of SCC. Chapter 5 discusses the limitations and future research

directions stemming from the findings. Finally, Chapter 6 provides a conclusion of the thesis, including key findings, theoretical implications, and managerial implications. Through this well-structured framework, the thesis offers a cohesive and comprehensive exploration of the research topic, integrating existing literature, theoretical perspectives, empirical findings, and future research directions.

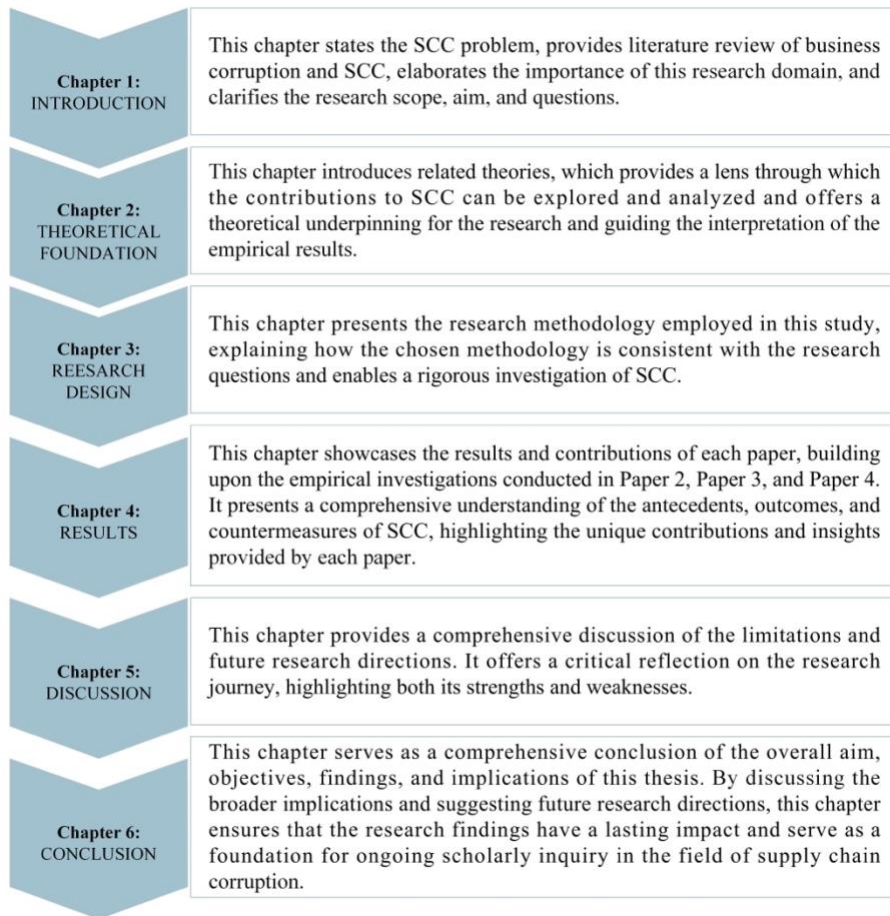


Figure 5 Overview of the thesis structure

## CHAPTER 2. THEORETICAL FOUNDATION

The purpose of this chapter is to provide a comprehensive theoretical foundation for the research conducted in this thesis. The chapter is divided into three main sections, namely theories underlying antecedents, theories underlying outcomes, and the theory underlying countermeasures. These theories are directly linked to different research themes and RQs, as depicted in Figure 6. To explore the antecedents of SCC, rational action theory and competitive and institutional isomorphism are used to address RQ 1. These theories help us understand the underlying motivations and factors that drive suppliers to engage in SCC with employees of focal firms. In investigating the outcomes of SCC, attribution theory and signaling theory are utilized to address RQ 2 and RQ 3. These theories enable us to examine the effects of SCC on bystander supply chain partners and industry peers, who are not directly involved in SCC but connected to the corrupt firms through supplier-buyer relationships and industry ties. Regarding countermeasures of SCC, justice theory is employed to explain the foundational principles of countermeasures to address RQ 4 and RQ5. Justice theory can serve as a guide for future efforts in combating SCC and developing effective strategies to mitigate its detrimental impacts. By incorporating these theoretical perspectives, this chapter establishes a strong theoretical framework that supports the subsequent empirical analysis and contributes to a deeper understanding of SCC dynamics and potential strategies for its prevention and mitigation.

Research Themes	Research Questions	Related Theories
Antecedents	RQ1	<ul style="list-style-type: none"> <li>• Rational action</li> <li>• Competitive and institutional isomorphism</li> </ul>
Outcomes	RQ2 & RQ3	<ul style="list-style-type: none"> <li>• Attribution theory</li> <li>• Signalling theory</li> <li>• Competitive effects on industry peers</li> </ul>
Countermeasures	RQ4 & RQ5	<ul style="list-style-type: none"> <li>• Justice theory</li> </ul>

Figure 6 Links among research themes, questions, and related theories

## 2.1. THEORIES UNDERLYING ANTECEDENTS

To address RQ 1 regarding the factors driving suppliers to engage in SCC, we will draw upon the perspectives of rational action, competitive isomorphism, and institutional isomorphism. Within the framework of institutional isomorphism, we further delve into three mechanisms: coercive, mimetic, and normative isomorphism. The rational action perspective provides insights into individual decision-making, while competitive and institutional isomorphism shed light on the broader environmental influences shaping suppliers' corrupt behavior, as shown in Figure 7.

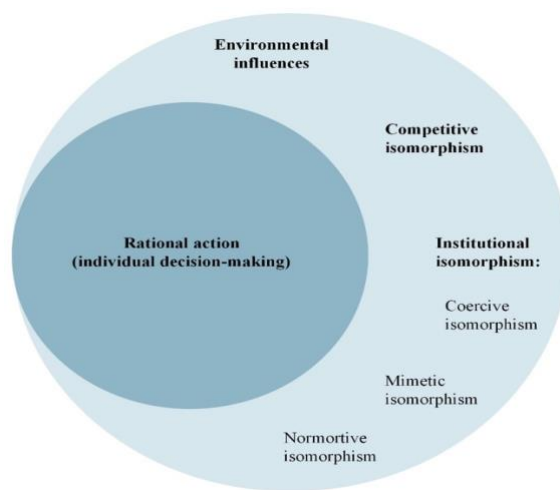


Figure 7 Theoretical foundation for antecedents of SCC

### 2.1.1. RATIONAL ACTION

From a rational actor perspective, SCC is carried out by individuals who engage in corrupt behavior based on a cost-benefit analysis. This analysis considers the potential benefits derived from corrupt actions, the likelihood of being detected, and the potential penalties involved. For both supply side and demand side of SCC, the magnitude of the potential gains directly influences the perceived attractiveness of engaging in corrupt behaviors (Rabl and Kühlmann, 2008). In contrast, the severity of potential penalties is a crucial factor as it directly impacts the expected gains for the individuals when deciding whether to participate in corrupt behavior (Jeong and Weiner, 2012). In the SCC context, the more competitive advantages over its competitors a supplier could obtain through a corrupt behavior, the more likely for the supplier to act corruptly representing as the supply side of SCC. Similarly, a substantial bribe would increase the temptation and make it more likely for employees of buyer companies to act corruptly.

Many studies explored different aspects of the situation that affect the likelihood of corruption occurring from the perspective of rational action. For instance, Gorsira et al. (2018b) conducted a study that examined the individual-level factors influencing corruption practices. They found that individuals' perceptions of the benefits associated with corruption, such as financial gains or competitive advantages, as well as their perceptions of the opportunities to violate corruption rules, were positively associated with engaging in corrupt behavior. In contrast, individuals' perceptions of the costs associated with corruption, such as legal penalties or damage to reputation, were negatively associated with corruption practices. Building on these findings, Dickel and Graeff (2018b) conducted research in an entrepreneurial context and further supported the relationship between perceived benefits, costs, and corruption. They found that individuals who believed in the likelihood of success and deliberated on the pros and cons of engaging in corrupt behavior were more likely to exhibit a propensity for corruption. In other words, when individuals perceived a higher probability of successfully benefiting from corrupt practices and when they weighed the advantages and disadvantages of corruption in their decision-making process, their inclination towards engaging in corrupt activities increased. These studies highlight the importance of individuals' perceptions of the benefits, costs, and opportunities associated with corruption in shaping their behavior. They suggest that when individuals perceive higher benefits, lower costs, and greater opportunities to engage in corruption, they are more likely to participate in corrupt practices. On the other hand, when individuals perceive lower benefits, higher costs, and limited opportunities for corruption, their inclination towards engaging in corrupt behavior decreases.

The primary advantage of the perspective of rational action lies in its simplicity, making it easily understandable and applicable. It offers valuable insights into the workings of corruption within firms. However, this simplicity also presents a drawback. According to this viewpoint, all firms would partake in corrupt practices given high incentives and low risks of detection or penalties. Yet, it is evident that this is not universally true. On the other hand, this perspective suggests that agents are unlikely to engage in corruption when there is limited potential for gains. However, anecdotal evidence contradicts this notion (Castro et al., 2020). Indeed, it is evident that different managers in different firms respond differently to the same situations. This indicates that although considering rational agents is a useful starting point in comprehending corporate corruption, there are additional factors at play beyond a simple rational calculation. One of the limitations of rational analysis is its narrow focus on financial incentives for managers and firms, disregarding the multifaceted nature of incentives and penalties associated with corporate corruption. The motivations and consequences involved in corporate corruption extend beyond mere financial gain or loss. It is important to recognize that not all companies opt for corrupt practices, even when faced with high financial incentives or a low risk of detection. Therefore, it becomes crucial to include alternative theoretical perspectives to gain a comprehensive understanding of factors driving suppliers to engage in SCC practices.

In this thesis, we combine competitive and institutional isomorphism with rational action theory to elaborate the antecedents of SCC.

### **2.1.2. COMPETITIVE AND INSTITUTIONAL ISOMORPHISM**

In addition to the rational action perspective, the perspective of organizational isomorphism offers valuable insights into understanding why suppliers engage in corrupt behavior. Traditionally, organizational theorists primarily focused on analyzing the internal functioning of organizations and viewed them as closed systems. However, this perspective began to shift in the 1970s as scholars started exploring the connections between organizations and their external environments. Notably, early researchers such as Zald (1970) delved into understanding the ties and interactions between companies and the environments they are embedded. However, it was the pioneering work of DiMaggio and Powell (1983) that made significant strides in explaining the prevailing similarity among firms today. They sought to understand the processes underlying organizational homogeneity or isomorphism. DiMaggio and Powell argued that the observed similarity among organizations results from their collective quest for legitimacy within their respective environments. Meyer and Rowan (1977) laid a foundational emphasis on legitimacy within the scholarly discourse, characterizing it as a status conferred by society. From the vantage point of specific social agents, a legitimate enterprise is one that effectively harmonizes its values and deeds with the ethical standards and anticipations of these very social agents (Pfeffer and Salancik, 1978). The pursuit of legitimacy impels organizations to engage in intricate processes of organizational isomorphism, which can be broadly categorized as comprising competitive isomorphism and institutional isomorphism (DiMaggio and Powell, 1983).

Competitive and institutional isomorphism play significant roles in understanding the phenomenon of corruption. Competitive isomorphism refers to the pressure organizations face to emulate successful counterparts due to market competition (DiMaggio and Powell, 1983). Firms strive to replicate the strategies, structures, and practices of their more successful counterparts to gain a competitive edge. The broader business community stands to reap advantages from the mitigation of corruption, despite the potential scenario wherein a firm might perceive bribery as an optimal strategy within a corrupt environment (Wei and Kaufman, 1999). In contrast to the conventional belief, Ades and Di Tella (1999) argued that increased competition can actually foster corruption. For instance, when firms confront sudden intensified competition, they may resort to corrupt practices to safeguard their profits (Ades and Di Tella, 1999; Venard and Hanafi, 2008). Therefore, in this thesis, we propose that it is relevant to explore the antecedents of SCC through the lens of competitive isomorphism.

Institutional isomorphism refers to the observed similarity or homogeneity among firms that arises due to the influence of institutional constraints. In the realm of



scholarly analysis, institutions can be delineated as human-crafted parameters that exert a shaping influence on the dynamics of political, economic, and social engagements (North, 1990, 1991). These encompass a comprehensive framework of “rules of the game”, spanning both explicit and implicit behavioral norms, which serve to establish appropriate motivational mechanisms for desired economic behavior (Rodrik and Subramanian, 2003). Understanding how institutions influence organizations is crucial in examining the dynamics of institutional isomorphism. Within the theoretical framework laid out by DiMaggio and Powell (1983), the phenomenon of institutional isomorphism is elucidated through the exposition of three distinct mechanisms: coercive, mimetic, and normative isomorphisms. These three mechanisms are essential to consider when addressing corruption.

First, coercive isomorphism entails firms being constrained by more influential social actors (Mizruchi and Fein, 1999). This term frequently alludes to the influences compelling organizations to conform to the societal expectations held at large. Consequently, scholars have underscored the existence of distinct business systems that engender coercive isomorphism within organizations (Venard and Hanafi, 2008; Venard, 2009). Regarding the inter-organizational relationship, the conceptual framework of coercive isomorphism, as elucidated by DiMaggio and Powel (1983), emphasizes the phenomenon wherein organizations adopt structures mandated by other entities upon which they depend (Venard and Hanafi, 2008). This accentuates the need for an augmented focus on the role of power in elucidating organizational behaviors. In the typical supply chain setting, it is commonly observed that buyers possess stronger power dynamics compared to suppliers (Chae et al., 2017; Wagner et al., 2011). In this scenario, buyers are the organizations that suppliers are dependent. Buyers often hold a dominant position in the supply chain due to factors such as their market size, purchasing volume, control over demand, and access to alternative suppliers. This gives them leverage to negotiate favorable terms and conditions, including pricing, payment terms, and contractual agreements. Additionally, buyers may have the ability to switch suppliers easily or source inputs from multiple suppliers, giving them increased bargaining power. This puts pressure on suppliers to meet buyer demands and maintain competitive pricing and quality to retain the business relationship. The power asymmetry can create conditions where suppliers may feel compelled to engage in corrupt behaviors, such as bribery, to secure or maintain their position within the supply chain.

Second, mimetic isomorphism, as defined by DiMaggio and Powell (1983), involves firms imitating the behaviors and practices of their business peers. This form of isomorphism occurs when the actions and approaches of leading firms are perceived as successful, serving as a reference for others in the industry. Mimetic isomorphism is relevant to understanding corruption, as it highlights the social influence and contagion of corrupt behavior within networks. Corruption is not solely an individual action but also a social action that can be influenced by the behavior of other social actors, particularly within corrupt networks (Nielsen, 2003). Pinto et al. (2008) argue

that the contagion of corrupt behavior can be observed both vertically and laterally, implying that corrupt practices can spread within and across organizations. At the organizational level, scholars have emphasized that firms may imitate the corrupt behaviors of other organizations (Venard and Hanafi, 2008; Venard, 2009). In the context of supply chains, if a supplier operates in an industry characterized by a significant prevalence of unfair practices, there is a risk that the supplier may imitate such behavior by their competitors and engage in corrupt practices to achieve its objectives. By employing the concept of mimetic isomorphism, we can explain why suppliers may engage in SCC as the supply side of corruption in private procurement. The influence of mimetic isomorphism suggests that suppliers may adopt corrupt behaviors as they observe and imitate the practices of other firms in their industry. This highlights the importance of considering the social and peer influences on suppliers' decisions to engage in SCC and the potential role of mimetic isomorphism in shaping their behavior within the supply chain context.

Third, Normative isomorphism refers to the collective efforts of members within an occupation or professional group to define and establish the conditions, methods, and procedures of their work (DiMaggio and Powell, 1983). This collective endeavor aims to regulate and control the processes within a particular occupational field. Within the framework of normative isomorphism, Venard (2009) conducted research to explore the impact of inter-group normative isomorphism on corruption. The study specifically focused on the behavior of multinational enterprises' subsidiaries in their interactions with public officials. The findings suggested that normative isomorphism had a negative effect on corruption. This implies that when there is a strong collective effort within an occupational group to define and uphold ethical norms and standards, it can serve as a deterrent to corrupt practices. Applying this concept to the context of SCC, we consider the role of unspoken rules or industry recipes in shaping suppliers' corruption practices. In certain industries or sectors, there may exist implicit understandings or norms regarding the acceptable behavior and practices, including corruption. These unspoken rules can influence the behavior of suppliers and shape their engagement in corrupt practices. The unspoken rules or industry recipes can arise from various factors such as historical practices, cultural norms, or established power dynamics within the industry. Suppliers may conform to these norms and engage in corrupt practices because they perceive them as necessary or inevitable for their survival or success within the industry, which could be explained by normative isomorphism. By acknowledging the role of normative isomorphism and the unspoken rules of the industry in shaping suppliers' corruption practices, we gain insights into the underlying social dynamics and contextual factors that influence the prevalence of SCC.

By considering the institutional perspective, we gain a deeper understanding of the complex interplay between organizations and their environments, and how this shapes their behavior, including engaging in corrupt practices. The pursuit of legitimacy and the pressures to conform to institutional norms and practices are critical factors that

influence suppliers' decisions to adopt corrupt behaviors. This perspective highlights the importance of examining the broader institutional context within which organizations operate to fully comprehend the dynamics of corruption.

## 2.2. THEORIES UNDERLYING OUTCOMES

In this section, we will introduce the theoretical foundation that underlies the examination of the outcomes of SCC in this thesis, specifically focusing on the impact of SCC on stock returns. Stock returns serve as a valuable indicator of both the tangible and intangible consequences of SCC. Since the published paper 3, which explores the spillover effects of SCC on stock returns, does not provide a detailed theoretical lens, we will elaborate on the theoretical foundation in this section. Additionally, even though we do not specifically center on the direct effect of SCC on corrupt firms, which has been previously addressed by Kim and Wagner (2021), we will provide a theoretical lens for this aspect since it serves as the basis upon which our research further explores the spillover effects, and we validate this relationship in our paper. To analyze the direct and spillover effects of SCC on stock returns, we will draw upon attribute theory and signaling theory. These theories provide a framework to address RQ 3 and RQ 4, as depicted in Figure 8.

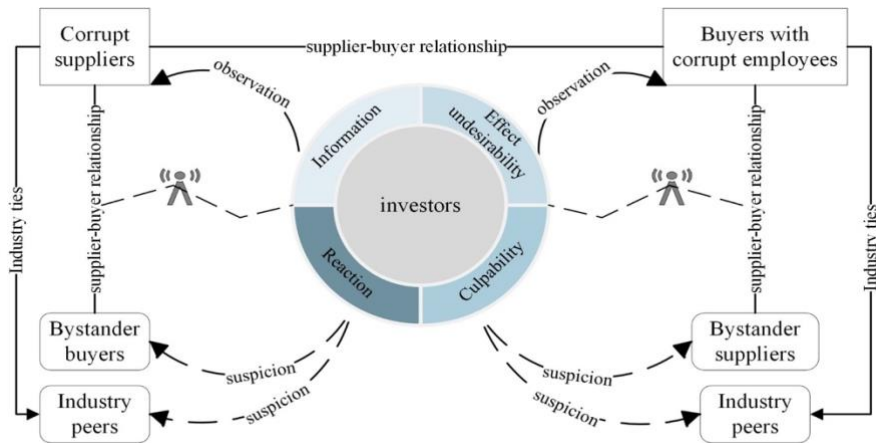


Figure 8 Theoretical framework illustrating investors' reactions to corrupt firms, supply chain partners, and industry peers

### 2.2.1. ATTRIBUTION THEORY

The common concept of attribution theory is that “people interpret behavior in terms of its causes and that these interpretations play an important role in determining reactions to the behavior” (Kelley and Michela, 1980, p. 458). This theory is pertinent to explain the attributions of SCC practices and the reactions of a firm's investors, as

unexpected undesirable outcomes frequently lead to an “attributional search” (Weiner, 1986). Hamilton (1980) proposed an analogy in which the perceiver acts both as an intuitive psychologist throughout the attribution process, judging the firm’s causation, and as an intuitive lawyer, judging the firm’s liability. This analogy indicates that an investor’s attributions entail both causal inferences and moral judgements (Lange and Washburn, 2012). Based on this analogy, we assume that investors are knowledgeable and rational to model SCCP attributions, although they are also subject to typical human cognitive limitations and biases. In this research, we explain investors’ perceptions of the causes of SCC practices and their reactions to such perceptions using a four-step process by integrating thoughts on the attribution theory of Kelley and Michela (1980) and Lange and Washburn (2012). As shown in Figure 8, the four-step process includes information reception, assessments of effect undesirability, assessments of firm culpability for the effects, and reactions to perceptions, as elaborated below. As investors search attributions after information reception, the SCC practices-induced investors’ reactions to corrupt suppliers and buyers are based on observations.

First, investors receive public and private information, which may be positive or negative, about publicly listed firms, and they make corresponding investment decisions based on the information. Second, when receiving negative information about corporate misconduct, investors are more likely to interpret effect undesirability, which means a negative societal consequence (Lange and Washburn, 2012). Such perceptions of negative societal consequences are essential to investors’ classification of a corporation as socially irresponsible (Lange and Washburn, 2012). Specifically, an investor will categorize a firm as socially irresponsible if they identify that the social ramifications of the event are perceived as undesirable and ostensibly associated with the firm. As a result of SCC practices, communities and societies may suffer irreparable loss, which may be in the forms of hazardous products, fatal safety incidents, or environmental disasters (UN Global Compact, 2016). Therefore, when investors receive information about SCC practices, the effect undesirability of these practices might be observed. As mentioned above, two principal parties, i.e., corrupt suppliers and buyers, are associated with the effect undesirability of SCC practices. Thus, in the second step of the attribution process, investors may categorize corrupt suppliers and buyers as socially irresponsible.

Third, a firm becomes the target of investors’ attributional activity when investors perceive the firm as socially irresponsible (Lange and Washburn, 2012). On this basis, after observing the effect undesirability of SCC practices and identifying the involved firms, investors would evaluate the firms’ culpability regarding the negative effects of SCC practices. Based on the above assumptions regarding investors, causality and moral responsibility judgements are based on a reasonable knowledge-seeking process in which the investors weigh available evidence. Based on relevant legal documents and other information provided by legal systems or leaked by informants, investors consider evidence that may indicate the causality of SCC practices (Einhorn

and Hogarth, 1986). Finally, attribution theory also suggests that the attribution of a behavior plays an important role in determining reactions to the behavior (Kelley and Michela, 1980). After observing the effect undesirability of SCC practices and attributing causality and moral responsibility judgements, investors may judge the corrupt suppliers and buyers as deserving contempt or sanction (Hamilton, 1980; Jones and Davis, 1965). As a result, both corrupt suppliers and buyers suffer reputational damage that decreases their market values.

## 2.2.2. SIGNALING THEORY

Signaling theory explains why investors are inclined to pay attention to bystander firms that are not directly involved when SCC practices occur and why supplier–buyer relationships increase the uncertainties regarding bystander firms’ involvement in SCC practices. As shown in Figure 8, effects of SCC practices spill over via the signal of supplier–buyer relationships and industry ties. SCC practices-induced investors’ reactions to bystander firms are based on their reasonable suspicion that SCC practices may have diffused along the supply chain and within the industry.

The core of signaling theory is the reduction of information asymmetry between two parties (Spence, 2002). In the context of equity investment, the senders (publicly listed firms) must decide whether and how to signal private information, and the recipients (investors) must decide how to interpret the signals to make investment decisions. Publicly listed firms obtain positive and negative private information, but the primary focus of signaling theory is on deliberately spreading positive information to indicate positive organizational attributes (Connelly et al., 2011). Generally, senders do not send negative signals, but receivers could get negative signals from senders’ actions (e.g., Myers and Majluf, 1984) or observable characteristics (Connelly et al., 2011; Kang, 2008). In terms of observable characteristics, some researchers have argued that investors’ reliance on observable and trustworthy signals from IPO firms grows due to uncertainty in the valuation of these firms caused by information asymmetry (Cohen and Dean, 2005; Sanders and Boivie, 2004).

When publicly listed firms have information about SCC practices, they do not send negative signals to show negative organizational attributes, thereby increasing information asymmetry between the firms and their investors. In this scenario, investors may rely on the firms’ observable signals. Interorganizational ties have been proposed as important signals of the quality of publicly listed firms (Stuart et al., 1999; Gulati and Higgins, 2003). When SCC practices occur between the corrupt supplier and buyer, the supplier–buyer relationship and industry ties are important observable signals that acts as conduits for information flow along the supply chain and within the industry. When a corrupt supplier/buyer is revealed to engage in SCC practices, the existence of the supplier–buyer relationship and industry tie increase uncertainty surrounding its bystander buyers/suppliers and industry peers. As a result, more information about bystander suppliers, bystander buyers, and industry peers is

generated due to the information generated by corrupt suppliers and buyers. Investors may then generalize the culpability of the involved firms to bystander firms, and the negative effects of SCC practices may spill over to bystander supply chain partners and industry peers.

The underlying mechanisms of spillover effects of SCC practices on bystander supply chain partners can be understood from the following two perspectives. First, investors may perceive that corrupt suppliers deployed corrupt behaviors as a non-market strategy to secure their orders in a transition context (Xie et al., 2019). Hence, bribery is often perceived as permissible within the organizational framework and aligned with its code of ethics, reflecting the prevailing organizational culture. Consequently, the supplier engaged in corrupt practices is commonly seen as resorting to bribery as a strategic approach in interactions with its buyers. As a result, when a supplier reveals SCC practices, investors' focus on the supplier-buyer relationship may also be warranted based on the suspicion that SCC practices may have diffused from one buyer to other bystander buyers. Second, when buyers disclose SCC practices, investors may assume that since these buyers have broken the law by accepting bribes from corrupt suppliers, they may also accept bribes from other bystander suppliers. Thus, when SCC practices are revealed, bystander suppliers and bystander buyers might also experience market penalties due to the negative spillover effects. Moreover, the fact that the buyer is closer to end consumers and the public enhances their visibility and accessibility. This proximity amplifies the impact of their signals and reinforces their potential for being held accountable when negative events transpire upstream in the supply chain. Thus, bystander buyers suffer a more negative impact when their supplier are found to be involved in SCC practices.

Regarding industry peers, the phenomenon has been explained by Jonsson et al. (2009), who proposed that in instances of misconduct, a "contagion of judgment from the culpable organizations to others that audience members see as related" (p. 196). Within the realm of investor perception, this process of generalization frequently hinges on the categorization within the industry (Paruchuri and Misangyi, 2015). In the context of our research, the disclosure of a firm's involvement in SCC practices sets forth a mechanism whereby the generalization of culpability, rooted in the evident signal of industry affiliation, insinuates that investors anticipate similar practices across all firms belonging to the same industry category as the implicated entity. This suspicion can consequently result in diminished market valuations for all these entities.

### **2.2.3.COMPETITIVE EFFECTS ON INDUSTRY PEERS**

While the notion of contagion holds validity, this perspective tends to overlook the intricate interplay of competitive dynamics that can arise among firms operating within the same industry due to SCC practices. Specifically, when a firm is found entangled in SCC practices, its competitive standing within the industry might erode,

owing to potential legal repercussions and harm to its reputation (Kim and Wagner, 2021). Moreover, due to concerns about reputation, the firm's existing customers and suppliers could gravitate towards its industry rivals, while potential customers and suppliers might shy away from conducting business with the dishonest entity. This shift culminates in a decline in the corrupt firm's market share and amplified challenges in sourcing. Conversely, the corrupt firm's industry peers may capitalize on this customer and supplier realignment, securing competitive advantages and subsequently enjoying positive reactions in the stock market. This intricate shift in competitive dynamics between the corrupt firm and its industry counterparts after the exposure of SCC practices could engender a contrary movement in the stock prices of industry peers, in contrast to the stock prices of the corrupt firm. This viewpoint gains support from prior research in contexts outside the supply chain domain, as evidenced by studies such as Goldman et al. (2012) and Naumovska and Lavie (2021). For instance, Goldman et al. (2012) discovered that when a firm acknowledges financial misconduct, its industry peers experience an average market value increase of approximately \$690 million.

Hence, two divergent perspectives emerge regarding the potential impact of SCC practices on the stock returns of the corrupt firm's industry peers. One angle accentuates the diffusion of SCC practices to industry peers, which could potentially trigger negative stock market reactions. On the other hand, an alternative viewpoint underscores the competitive edge that industry peers might secure, leading to positive stock returns.

## **2.3. THEORIES UNDERLYING COUNTERMEASURES**

In this thesis, we employ justice theories as a theoretical foundation for countermeasures in fighting SCC. We integrate the principles of FJ, justice in supply chains, namely distributive justice (DJ), procedural justice (PJ), and interactional justice (IJ), and SJ into the design and implementation of collective measures taken by multiple stakeholders. This approach ensures that efforts to combat SCC are grounded in fairness, ethics, and the equitable distribution of resources and opportunities.

### **2.3.1. FORMAL JUSTICE**

FJ refers to the concept of "impartial and consistent administration of laws and institutions," which is the adherence to principles or obedience to the system (Rawls, 1971, p. 51). It ensures that individuals are treated equally under the law, regardless of their social status, background, or personal characteristics. The principle of FJ requires that legal and institutional procedures be transparent, predictable, and consistently applied to maintain the rule of law. In the context of combating SCC, FJ plays a crucial role. It entails establishing clear legal frameworks, regulations, and enforcement mechanisms to address corrupt practices effectively. By adhering to

principles of FJ, anti-SCC measures seek to ensure that corrupt actors are held accountable, that investigations and legal proceedings are conducted impartially, and that penalties are applied consistently. This promotes a fair and transparent system for addressing SCC and instills confidence in stakeholders that justice will be served.

### **2.3.2. JUSTICE IN SUPPLY CHAINS**

In the context of supply chains, distributive, procedural, and interactional justice form a comprehensive concept of justice (Griffith et al., 2006; Liu et al., 2012). Each dimension contributes to reducing SCC and promoting a fair and collaborative supply chain environment. DJ refers to the equitable allocation of decision outcomes and resources based on a company's contribution to the supply chain relationship (Brown et al., 2006; Yilmaz et al., 2004). When a company receives a fair share of advantages and resources in proportion to its input and efforts within the supply chain, DJ is achieved. By ensuring that all stakeholders in the supply chain relationship receive fair treatment and a reasonable distribution of benefits, DJ helps to minimize the likelihood of SCC. PJ focuses on a firm's perception of fairness and impartiality in the decision-making and resource allocation processes, criteria, and business policies of its supply chain partners (Luo, 2008). It pertains to the fairness of the procedures followed and the transparency of decision-making in supply chain interactions. When a business receives fair information and considerate treatment from its supply chain partners throughout inter-organizational processes, PJ is upheld. PJ ensures that the decision-making processes are unbiased, transparent, and consistently applied, promoting trust, and reducing the potential for corrupt practices. IJ relates to the quality of interpersonal treatment and communication within the supply chain (Luo, 2007; Skarlicki and Folger, 1997). It emphasizes that all stakeholders in the supply chain should be treated with respect, dignity, and fairness. IJ fosters a collaborative and reliable supply chain environment by promoting open communication, mutual understanding, and positive relationships among stakeholders. By promoting respectful and considerate treatment, IJ reduces the likelihood of opportunistic behavior and enhances trust and cooperation between buyers and suppliers (Huo et al., 2016). Together, these dimensions of justice in supply chains contribute to reducing SCC and establishing a fair and ethical supply chain environment. DJ ensures that benefits and resources are distributed equitably, PJ ensures fair and transparent decision-making processes, and IJ fosters respectful communication and positive relationships among supply chain actors. By integrating these principles of justice into supply chain practices, organizations can create a foundation for ethical behavior, trust, and collaboration, ultimately mitigating the occurrence of SCC.

### **2.3.3. SUBSTANTIVE JUSTICE**

Rawls' theory of justice indeed focuses on substantive justice and introduces principles such as equal liberties, fair equality of opportunity, and different principles as fundamental elements. Substantive justice encompasses both rules and outcomes



in its pursuit of a just and fair society (You, 2007). In the context of combating SCC, substantive justice implies that all members within the supply chain should adhere to rules and regulations that promote fairness and integrity. It emphasizes the importance of taking actions that ensure the fairness of outcomes. This means that chain members should not only abide by established rules and guidelines but also actively work towards creating a fair and just outcome within the supply chain.

# CHAPTER 3. RESEARCH DESIGN

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*As business and management researchers we need to be aware of the philosophical commitments we make through our choice of research strategy since this has significant impact not only on what we do but we understand what it is we are investigating.*  
– Johnson and Clark (2006)

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This chapter aims to present and elucidate the research design employed in this thesis. It serves to provide a comprehensive understanding of the rationale behind the decisions made during the design and execution of the empirical data selection, collection, and analysis processes throughout this PhD thesis. The chapter begins by exploring the research philosophy adopted in this research, which plays a fundamental role in shaping the approach to knowledge development and the perception of knowledge. The research philosophy chosen establishes significant assumptions about the author's worldview and will form the foundation for the research strategy and the methods employed within that strategy.

In this thesis, two prominent research paradigms, namely Positivism and Interpretivism, are thoroughly explored. Each paradigm offers unique viewpoints on ontology, epistemology, and axiology, influencing how researchers conceptualize reality, acquire knowledge, and consider the role of values in their research endeavors. In addition, the research design of this thesis incorporates both deductive and inductive approaches. The deductive approach encompasses the formulation of a theory and corresponding hypotheses grounded in pre-existing knowledge, followed by the delineation of a research methodology that facilitates the empirical testing of these hypotheses. Conversely, the inductive approach revolves around the acquisition of data and the subsequent construction of a theory informed by the meticulous analysis of the data. Both approaches converge to enrich a holistic comprehension of the research subject. By adopting a multi-method research design and exploring different research paradigms, this thesis aims to provide a rich and robust examination of SCC, considering diverse perspectives and methodologies. This approach enhances the credibility and validity of the research findings, offering a holistic understanding of the complexities involved in SCC and contributing to the advancement of knowledge in the field.

## 3.1. RESEARCH PARADIGM

In this section, I delve deeper into the concept of research philosophies by examining them together through the lens of research paradigms. The term “paradigm” is

commonly used in the social sciences to refer to a way of approaching and studying social phenomena, which leads to specific understandings and attempts at explaining these phenomena (Saunders et al., 2009). Research paradigms are influenced by practical considerations, but the primary influence is the author's perspective on the relationship between knowledge and its development process. Different paradigms result in considerable variations in research strategies and methods, as well as differing views on what is considered important and useful in research (Saunders et al., 2009). This thesis aims to delve into the fundamental philosophical underpinnings of key research paradigms, specifically focusing on Positivism and Interpretivism. Table 3 presents the comparison of these two research paradigms. The examination will shed light on the ontological, epistemological, and axiological perspectives associated with each paradigm, shaping how researchers perceive reality, knowledge, and the role of values in research.

Table 3 Comparison of two research paradigms in this thesis (adapted from Saunders et al., 2009)

Paradigm	Ontology	Epistemology	Axiology
<b>Positivism</b>	External, objective and independent of social actors	Only observable phenomena can provide credible data, facts. Focus on causality and law like generalizations, reducing phenomena to simplest elements	Research is undertaken in a value-free way, the researcher is independent of the data and maintains an objective stance
<b>Interpretivism</b>	Socially constructed, subjective, may change, multiple	Subjective meanings and social phenomena. Focus upon the details of situation, a reality behind these details, subjective meanings motivating actions	Research is value bound, the researcher is part of what is being researched, cannot be separated and so will be subjective

Defined by (Hudson and Ozanne, 1988), ontology refers to the nature of reality. This means that ontology primarily delves into the essence of a phenomenon, focusing on its fundamental nature of existence. It strives to address a RQ by directing attention towards pre-existing forms of knowledge that can offer insights into the underlying reality. According to Carson et al. (2001), epistemology can be succinctly defined as the researcher's approach to understanding reality. It encompasses how a researcher seeks to acquire knowledge to comprehend the world around them. Epistemology is

an internal factor within the researcher, as it involves the process of distinguishing between right and wrong and shapes the researcher's perspective on the world (Scotland, 2012; Saunders et al., 2009). It influences the methods chosen for research and the interpretation of findings. Axiology is a branch of philosophy that examines judgments about value (Saunders et al., 2009). Heron (1996) argued that our values serve as the guiding principles behind all human actions. In the context of research, axiology pertains to researchers' ability to articulate their values as a foundation for making judgments about the type of research they undertake and how they approach it. Demonstrating axiological skill involves being conscious of one's values and utilizing them to inform and guide the research process.

Additionally, the interrelationships between these philosophical elements and the research methods employed within each paradigm will be thoroughly outlined and elucidated. By exploring these aspects, the thesis seeks to enhance the understanding of how different research paradigms influence the way researchers perceive reality, acquire knowledge, and consider the role of values in their research endeavors.

### **3.1.1. POSITIVISM**

Remenyi et al. (1998: 32) argued that adopting the philosophy of positivism entails working with an observable social reality and producing law-like generalizations akin to those found in the physical and natural sciences. In the context of positivism, researchers often advocate for the use of highly structured methodologies to facilitate replication (Gill and Johnson, 2010). Replication is a crucial aspect of positivist research as it aims to ensure the reliability and validity of findings by allowing other researchers to repeat the study using the same methodology and data to see if they arrive at similar results. Positivism assumes an objective, external reality that exists independently of social actors, and it posits that social phenomena can be observed and measured through empirical data. In the context of this PhD thesis, the author embraces a positivist ontology, employing the event study approach to investigate the outcomes of SCC. SCC is viewed as an external and objective phenomenon that impacts financial markets and can be measured using observable data. The event itself is considered an objective occurrence influencing investors' behaviors. From the epistemological standpoint, positivism relies on empirical evidence and observable phenomena to establish credible knowledge. This research focuses on measurable financial market data, stock prices, and trading volumes to explore the spillover effects of SCC practices. It aims to identify the relationship between SCC events and their impact on stock prices. Regarding the axiological stance, positivism aims to maintain a value-free and objective approach to research, minimizing the researcher's values' influence on the research process. The assumption is that "the researcher is independent of and neither affects nor is affected by the subject of the research" (Remenyi et al., 1998: 33). In this thesis, the event study is conducted in a value-free manner. The authors strive for objectivity and independence from the data, analyzing

secondary data with an objective outlook. The authors concentrate on the financial outcomes of SCC without incorporating subjective values or interpretations.

### **3.1.2. INTERPRETIVISM**

Interpretivism emerged as a response to the limitations inherent in positivism, introducing a subjective perspective to the philosophical underpinnings of research methodology. Interpretivism's essence lies in its comprehensive exploration of contextual variables and factors, emphasizing the intricacies that pertain to a specific setting. It acknowledges the intrinsic difference between human experience and the empirical study of physical phenomena, attributing this distinction to the added layers of meaning infused by human interactions. As such, interpretivism contends that the exploration of human beings cannot be approached using the same methodologies employed in the examination of physical phenomena (Saunders et al., 2009). Consequently, the distinction between interpretivism and positivism assumes significant importance within the realm of social science research, serving as a fundamental difference from the methodologies applied in natural research. Interpretivism's distinguishing feature lies in its purposeful pursuit of capturing the nuanced richness inherent in the insights it gathers. In contrast to positivism, which seeks to establish overarching and universally applicable laws capable of being generalized across diverse scenarios, interpretivism is driven by the desire to apprehend the intricate interplay of variables and factors that characterize complex human experiences (Myers, 2008; Saunders et al., 2009).

Table 3 presents further details of the interpretivism research philosophy on ontology, epistemology, and axiology. Interpretivism ontology recognized that reality is socially constructed and subjective. It acknowledges that different individuals and groups may perceive reality differently and that multiple interpretations exist. In this PhD thesis, I used case study approach to explore the antecedents and countermeasures of SCC by adopting an interpretivist ontology. The SCC is recognized as a socially constructed and subjective phenomenon, which may vary across different contexts and situations. The authors aim to understand the multiple perspectives of SCC as observed in the selected cases. Interpretivism epistemology focuses on understanding subjective meanings and the context in which social phenomena occur. It emphasizes qualitative methods and seeks to uncover the underlying motivations and intentions of human actions. In this thesis, the epistemological stance of the case study is also interpretivist. The authors aim to seek to explore and comprehend the subjective meanings and underlying realities behind SCC practices. This means the authors focus on the details of specific situation, examining the motivations driving SCC practices and exploring how to combat such unethical practices in supply chains. Interpretivism axiology embraces the role of values in research. Researchers acknowledge that their own values and subjectivity play a role in interpreting data and shaping research outcomes. In this thesis, the axiological standpoint of case study acknowledges that researchers are inherently part of the research process. They would recognize the

influence of their values and perspectives in interpreting the archival data. This recognition would guide researchers to approach the case study with reflexivity, considering their potential biases while analyzing and presenting the findings.

In summary, the research paradigm of SCC involves adopting different ontological, epistemological, and axiological perspectives depending on the research approach used. The case study based on archival data takes an interpretivist stance, emphasizing subjective meanings and recognizing the researchers' involvement in the research process. On the other hand, the event study method using secondary data follows a positivist paradigm, focusing on objective measurements and maintaining a value-free approach. By combining these two research paradigms, researchers can gain a comprehensive understanding of SCC, incorporating both qualitative insights from specific cases and quantitative findings related to the financial impact of corruption events on markets.

### **3.2. MULTI-METHOD RESEARCH**

In light of the research paradigms discussed earlier, this section elaborates the multi-method research adopted in this PhD thesis. The thesis commences with systematic literature review on both business corruption and SCC, which helps identify research gaps and problems within the field of SCC. Based on these gaps, specific RQs and objectives are refined and clarified. To address the RQs, the research design is structured into three key research phases. The phase I and phase III utilize case study, while the phase II employs an event study method, each method with its idiosyncratic techniques. These methods are applied to address the defined RQs in different research phases, contributing to a holistic and comprehensive investigation of the research topic. The combination of these methods creates a unique and robust methodology to exploration on the objectives of the thesis.

Figure 9 visually illustrates the entire research process, starting from the literature review, followed by the identification of research gaps and problems, formulation of RQs, research design, results, and finally, conclusions and implications. The research design section outlines the purpose of each of the three research phases and describes the multiple methods utilized throughout the thesis. It is important to note that this research process is iterative, meaning that it involves a continuous and recursive cycle of refining RQs, adapting methods, and interpreting results to achieve a comprehensive understanding of the research topic.

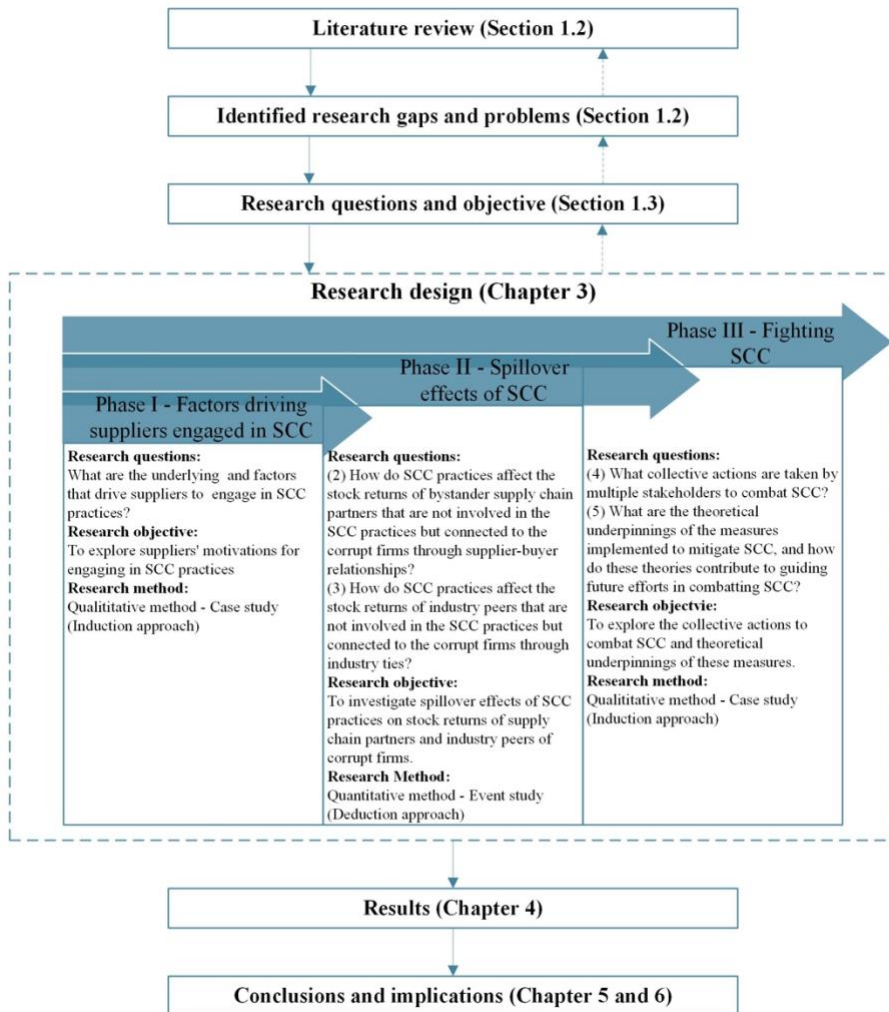


Figure 9 The multi-method research design of this PhD thesis

In this section, the focus will be on the research design, building upon the elaborated sections related to literature review, identification of research gaps and problems, and the development of RQs and ROs in Chapter 1. As depicted in Figure 9, each research phase is assigned a distinct purpose, which can be further clarified through specific RQs and ROs. These RQs and ROs guide the selection of appropriate research methods for conducting the research procedures, data collection, and evaluation of the validity and reliability of each phase. The research design is carefully crafted to align with the chosen research paradigms and theoretical frameworks. Throughout each research phase, the chosen research methods are tailored to suit the unique requirements and objectives of that phase. Additionally, the iterative nature of the

research design allows for continuous refinement and validation of findings. As each research phase unfolds, the RQs and ROs are revisited and adjusted to accommodate emerging insights and observations.

Research phase I of the research aims to explore the antecedents of SCC, focusing on the factors that drive suppliers engaged in SCC as the supply side of corruption. To address RQ 1, a qualitative research method, specifically the case study approach, has been employed. Given the under-studied nature of this area, the case study method is deemed appropriate for theory building (Eisenhardt, 1989; Miles and Huberman, 1994). The study is based on eight cases of SCC practices, involving eight focal firms, twenty-five suppliers, and twenty employees who violated their obligations to assist the suppliers in gaining unfair advantages over the focal firms. Research phase II aims to investigate the outcomes of SCC, specifically the spillover effects of SCC practices on stock returns. The RO is to explore the spillover effects of SCC practices on stock returns of supply chain partners and industry peers of corrupt firms. To address RQ 2.1 and RQ 2.2, the short-term event study method is employed in this phase. The event study approach enables the assessment of stock market reactions to SCC events, providing valuable insights into the financial implications of SCC on the stock returns of bystander firms that are not directly in SCC practices. Research phase III aims to explore countermeasures and propose a theoretical framework to combat SCC. In this phase, the case study approach is again employed to address RQ 3.1 and RQ 3.2. Academia is perceived to be lagging behind practitioners in identifying the causes and proposing solutions for organizational corruption, which requires prompt attention (Ashforth et al., 2008). By conducting a multiple case study and reviewing real-world SCC struggles by collective actions, this phase aims to bridge the gap between practitioners and academia in the fight against SCC. Based on the findings, a framework is proposed for future research, aiding both practitioners and academia in addressing this pressing societal issue effectively.

The multi-method research design employed in this thesis allows for a comprehensive examination of different aspects of SCC, providing a nuanced understanding of its antecedents, outcomes, and countermeasures. By using both qualitative and quantitative approaches, the research seeks to contribute valuable insights to both academic knowledge and practical efforts in combating SCC.

### **3.2.1. CASE STUDY**

According to Robson (2002: 178), a case study is “a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real-life context using multiple sources of evidence.” Yin (2014: 16-17) presented a two-folded definition of a case study: “A case study is an empirical inquiry that investigates a contemporary phenomenon (the ‘case’) in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident.” These definitions imply that case study methods are used to



conduct in-depth investigations in the natural setting of the problem (Eisenhardt, 1989; Siggelkow, 2007). In this thesis, case study is adopted to systematically address the RQs articulated in Phase I and III. This application involves the employment of inductive logic, drawing from the insights elucidated by Karlsson (2009). Furthermore, the qualitative rigor of Gioia's model (Gioia et al., 2012) contributes to the analysis conducted within this thesis.

Yin (2003) distinguished four strategies for case study methodologies based on the following two dimensions:

1. Single case vs. multiple case study: A single case study is often used when it represents a critical, extreme, or unique case. Multiple case studies are employed to examine whether the findings from one case apply to other cases and to generalize from those findings. As shown in Figure 9, multiple case studies are utilized in both research phases I and III.

2. Holistic vs. embedded: This dimension refers to the unit of analysis. In a holistic case study, the focus is solely on the organization as a whole. On the other hand, an embedded case study involves examining logical sub-units within the organization, such as departments or work groups. In this thesis, the unit of analysis is always the entire organization, making it a holistic case study.

By adopting multiple case studies and a holistic approach in this thesis, the research delves into the phenomenon of SCC within the real-life context of different organizations. The utilization of these case study strategies allows for a comprehensive exploration of the antecedents and countermeasures associated with SCC, enhancing the depth and richness of the research findings.

### **3.2.2. EVENT STUDY**

The origins of modern event studies can be traced back to two seminal works by Ball and Brown (1968) and Fama et al. (1969). In recent years, the scope of event studies has expanded beyond solely measuring stock market reactions to also include other firm-level consequences, such as operating performance (Barber and Lyon, 1996). Despite this broader definition, the essence of modern event studies remains unchanged: evaluating the significance of sample securities' mean and cumulative abnormal return (CAR) during an event period (Kothari and Warner, 2007).

Event studies can be divided into different categories based on event window length and performance measurement. Long-term event studies focus on detecting abnormal stock returns over a period ranging from one to eight years, utilizing methods such as calendar-time portfolio abnormal return (AR) or buy-and-hold AR (Barber and Lyon, 1997; Lyon et al., 1999), while short-term event studies examine abnormal stock returns over a maximum window length of 40 days (Brown and Warner, 1985; MacKinlay, 1997). The diverse approaches in event study methodologies allow

researchers to investigate the impact of events on various time horizons and financial indicators. Whether examining short-term or long-term effects, event studies remain an essential tool in empirical finance, contributing to a comprehensive understanding of market dynamics and firm-level performance in response to significant events. In this thesis, a short-term event study has been employed to explore the spillover effects of SCC practices on stock returns of bystander supply chain partners and industry peers that are not directly involved in SCC practices.

Based on MacKinlay (1997), Ding et al. (2018) outlined six fundamental steps for conducting a short-term event study. These steps serve as a structured guide for addressing RQ 2, which are explained in detail below.

- (1) **Identify an Event of Interest:** The first step involves selecting a specific event or series of events that are of interest for the study. According to Ding et al. (2018), in the OSCM domain, short-term event studies are conducted to investigate various events that may have significant impacts on stock returns. These events encompass a wide range of factors, such as supply chain disruptions, environmental management initiatives, quality management interventions, and R&D projects, among others. In this thesis, the focus is on SCC practices, based on 117 SCC events occurring in China between 2014 and 2021.
- (2) **Define the Event Window:** The event window refers to the time period surrounding the identified event during which the stock returns will be analyzed. Justification for the choice of the window length should be provided. In the context of this study, a typical SCC case in China is observed to comprise five key stages: detention, arrest, prosecution, judgment, and verdict. For each SCC case, the dates corresponding to these five stages were successfully identified from the China Judgments Online (CJO) database. These specific dates of detention, arrest, prosecution, judgment, and verdict are considered as the event dates for each respective SCCP case.
- (3) **Collect the Sample and Eliminate Confounding Events:** The next step entails collecting the sample of companies or securities that will be included in the analysis. It is crucial to eliminate confounding events that could influence the results and ensure a more accurate assessment of the event's impact. In this thesis, the screening process involved identifying publicly listed firms on the Chinese stock market that were involved in SCC practices and excluding private firms from the sample. As a result, a total of 117 publicly listed Chinese firms were included in the sample, covering the period from 2014 to 2021. The sample comprised 91 firms involved as corrupt buyers and 26 firms involved as corrupt suppliers.
- (4) **Predict Normal Returns with an Estimation Model:** To determine the expected or normal returns, an estimation model is constructed based on historical data. This model serves as a benchmark against which the actual stock returns will be compared during the event window. In practice, only the actual return of stocks can be observed.

- (5) Calculate the ARs: ARs are calculated by subtracting the predicted normal returns from the actual returns during the event window. The aggregated ARs are then tested for their significance.
- (6) Explain Cross-Sectional Variations in ARs: This step involves examining the factors that may contribute to the variations in ARs across different companies or securities in the sample. Factors such as company size, industry, and specific characteristics may influence the observed ARs. This step is not included in this thesis, because the research design concentrates on assessing the general financial consequences of SCC practices on the sample companies, without delving into the factors that might cause variations in the ARs across different firms within the sample.

### 3.3. MULTIPLE METHODS CHOICES

Within the domain of business and management research, the terminology of “quantitative” and “qualitative” is frequently employed to establish a clear distinction between different approaches to data collection and subsequent data analysis methodologies. The distinction between the two is primarily based on the nature of data they focus on, whether numeric or non-numeric. Quantitative research involves data collection techniques and analysis procedures that generate or use numerical data, such as surveys or statistical analysis. On the other hand, qualitative research employs data collection techniques and analysis procedures that generate or use non-numerical data, such as interviews or content categorization.

In this thesis, following the definition by Saunders et al. (2009), “research choice” pertains to how quantitative and qualitative techniques and procedures are combined. The research design can either adopt a single data collection technique and its corresponding analysis procedures (mono method) or incorporate multiple data collection techniques and analysis procedures to address the RQs (multiple methods), as depicted in Figure 10. In the context of research design, a “mono method” involves the use of either a single quantitative data collection technique, such as questionnaires, paired with quantitative data analysis procedures, or a single qualitative data collection technique, such as interviews, combined with qualitative data analysis procedures. In contrast, “multiple methods” refers to combinations where more than one data collection technique is used with associated analysis techniques, but within either a quantitative or qualitative worldview. For instance, “multi-method quantitative studies” entails collecting quantitative data using various methods (e.g., questionnaires and structured observations) and analyzing the data using statistical procedures. Similarly, “multi-method qualitative studies” involves collecting qualitative data and using non-numerical analysis procedures. A “mixed-method approach” integrates both quantitative and qualitative data collection techniques and analysis procedures within a research design. This approach can be further classified into two types: “mixed method research” uses quantitative and qualitative data collection techniques and analysis procedures either simultaneously or sequentially

but without combining them, while “mixed-model research” combines both quantitative and qualitative data collection techniques and analysis procedures and integrates quantitative and qualitative approaches.

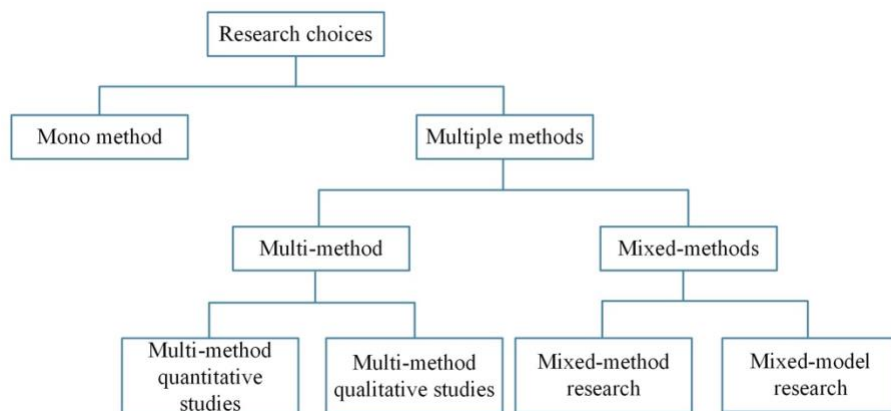


Figure 10 Research choices (adapted from Saunders et al. (2009))

In this thesis, a mixed-method research approach has been employed. According to Tashakkori and Teddlie (2003), multiple methods are useful if they offer better opportunities to address RQs and enable a more comprehensive evaluation of the research findings and their trustworthiness. Different methods can be utilized for various purposes within the study. In this thesis, the author first collect archival data and employ qualitative analysis procedures to gain insights into key issues before collecting secondary data and employ quantitative analysis procedures. By utilizing a mixed-method approach, the research design in this thesis can benefit from the strengths of both quantitative and qualitative data, allowing for a deeper understanding of the phenomenon under investigation and enhancing the overall robustness of the research findings.

### 3.3.1.DATA COLLECTION

This thesis employs a mixed-method approach, integrating both quantitative and qualitative data collection techniques, as delineated in

Table 4. In Research Phase I, the data source is the CJO database (<https://wenshu.court.gov.cn>), which provides access to court verdicts of criminal cases involving Chinese firms. To ensure the rigor of the research findings, only final verdicts that have reached their conclusive stage without the possibility of further appeal were considered. As the focus of this phase is to investigate the factors influencing suppliers’ engagement in SCC practices in private procurement, the data collection is specifically directed towards criminal cases involving passive bribery of

non-state employees and active bribery of non-state employees. To identify relevant cases, a comprehensive search strategy was devised, and the search item is (suppl\* OR buyer\* OR purchas\* OR procurement OR bid\* OR tender\*) AND (extortion OR bribe\* OR kickback\* OR benefit fees).

Table 4 Data sources and use

	Type of data	Data source	Use in the analysis
<b>Phase I</b>	Archival data: Final verdicts related to SCC practices	CJO database	Investigate the suppliers' motivations behind the engagement in SCC practices
<b>Phase II</b>	Archival data: Final verdicts related to SCC practices; Secondary data: supply chain relationship data; industry categorization data; stock returns data; and Fama-French five factors' data	CJO database; Bloomberg SPLC database; CSMAR database	Identify and construct SCC event and identify corrupt firms; Identify supply chain partners; Identify industry peers; Obtain stock returns data and Fama-French five factors' data to calculate ARs
<b>Phase III</b>	Archival data and secondary data	Annual reports, integrity initiative annual reports, business conduct guidelines, ESG performance reports, and anti-bribery and corruption policies; Relevant newspaper articles and corporate announcements	Investigate what collective actions the focal firms have initiated to combat SCC

After excluding irrelevant cases, a total of 191 cases of passive bribery of non-state employees and 64 cases of active bribery of non-state employees were obtained. To explore SCC from a comprehensive perspective, the cases in these two categories were matched, resulting in 23 pairs of cases. Considering the completeness and richness of information, 8 pairs of cases were selected as the final sample for analysis.

Utilizing data from the CJO database is essential to address the dearth of objective information related to the controversial topic, stemming from potential social-desirability bias (Arnold et al., 2012). The data derived from the legal system increases the reliability of the research findings, as it has undergone verification through various sources, such as documentary evidence, witness testimony, and statements of the defendants. The verdicts provide crucial information relevant to the research, including defining a monetary measure of corrupt activities and disclosing the scope of corruption, such as the roles of perpetrators and accomplices, the hierarchical levels and departments/units within the organization involved, and the number of individuals

engaged over time. This information enables an assessment of whether corruption practices occurred in private sector purchasing between suppliers and employees of focal firms. Furthermore, defendants' statements and witness testimonies offer insights into the process of corruption, including specific motivations behind the corrupt actions.

For the Research Phase II, both qualitative and quantitative data were employed. The data on the identification of SCC events and corrupt firms were collected from court verdict announcements in the CJO database. The criteria were carefully applied to identify firms involved in SCC practices, resulting in a sample of 117 publicly listed Chinese firms involved in SCC practices from 2014 to 2021, comprising 91 corrupt buyers and 26 corrupt suppliers.

Bystander supply chain partners were identified by gathering supply chain relationship data from the Bloomberg Supply Chain (Bloomberg SPLC) database, which offered information for Chinese publicly listed companies from 2018. This data enabled the matching of corrupt firms with their first-tier bystander suppliers and buyers. To ensure the bystander suppliers and buyers were involved in buyer-supplier relationships with the corrupt firms during the occurrence of SCC practices events, I identified them according to the time of corruption practices. Only publicly listed bystander supply chain partners with available stock data were included, resulting in 304 identified bystander supply chain partners, comprising 264 bystander suppliers and 40 bystander buyers.

To identify industry peers of corrupt firms, industry codes sourced from the China Stock Market & Accounting Research (CSMAR) database were employed. This approach facilitated the systematic exploration of firms sharing the same industry code as the corrupt entity. Subsequently, a further selection process ensued, focusing on pertinent industry peers devoid of any implication in SCC practices.

The data on stock returns for the firms involved in the study, as well as the Fama-French five factors, were collected from the CSMAR database. This database is a reputable and widely used resource for researchers in finance and accounting, providing comprehensive data on Chinese stock markets and financial information for listed companies.

For the Research Phase III, archival data was utilized once again. Pioneering companies in combating SCC were identified through related news and corporate announcements. Data was firstly collected from these companies' websites, including their annual reports, integrity initiative annual reports, business conduct guidelines, environmental, social, and corporate governance (ESG) performance reports, and anti-bribery and corruption policies. Then, relevant newspaper articles and corporate announcements detailing their efforts to combat SCC were also searched and incorporated into the study.

### 3.3.2. DATA ANALYSIS

In this study, qualitative data analysis for both Research Phase I and III follows the approach outlined by Gioia et al. (2012). The data analysis process was conducted iteratively, involving within-case and cross-case analyses, with a focus on ensuring consistency in the coded data. To provide clarity, the sequential steps of this process are presented:

*Step 1. First-order analysis.* In Research Phase I, multiple rounds of coding to identify and categorize SCC-related constructs from the testimonies of defendants and witnesses were conducted. This coding process was performed independently by researchers, and subsequent discussions were held to compare and reconcile any divergent interpretations. In Research Phase III, similar coding rounds were undertaken to explore the collective actions among multiple stakeholders initiated by FFs, including interactions between FFs and government agencies, supply chain collective actions, and FF-NGO collective actions.

*Step 2. Second-order analysis.* In Research Phase I, building upon the findings from Step 1, a more abstract model that theorized the motivations behind companies engaging in SCC within the private purchasing process was developed. During this analytical stage, the empirical findings were related to existing literature. A similar approach was adopted in Research Phase III, where an abstract model to theorize countermeasures for combating SCC was developed based on the findings from Step 1. At this stage, the empirical findings were integrated with existing literature and theories, particularly focusing on justice theories that underlie the empirical observations.

*Step 3. Development of an overall theoretical framework.* Drawing on the insights gained from both first-order and second-order analyses, an overarching theoretical framework that accounts for the motivational drivers of SCC practices as observed in Research Phase I was developed. In Research Phase III, a theoretical framework for countermeasures was also developed. This final round of analysis allowed the researchers to provide a comprehensive and robust explanation of why companies engage in SCC practices as the supply side and how SCC can be effectively combated through collective actions.

Quantitative analysis procedures are employed in Research Phase II. As mentioned in Section 3.2.2, an analysis of short-term event study was conducted. After data collection, the main analysis procedure in this thesis could be divided into the following four steps:

*Select estimation model, estimation window, and calculate expected return:* To estimate the expected return, the authors employed the widely recognized Fama-French five-factor model, as proposed by Fama and French (2015), as represented

by Equation 1. This model has demonstrated superior performance in explaining expected stock returns compared to other traditional asset pricing models (Huang, 2019). By utilizing this model, the author aims to establish a robust benchmark for the expected return that serves as a basis for comparing the actual returns observed during the event window. To derive the expected return, the author selected an estimation period consisting of 200 trading days. This period spans from 210 days prior to the event date, up to 11 days prior to the event date. By including a substantial number of trading days leading up to the event, the researchers seek to capture the underlying trends and patterns in stock returns before the occurrence of the specific event under investigation.

$$E(R)_{it} = a_i + b_i(R_{mt} - R_{ft}) + c_iSMB_t + d_iHML_t + e_iRMW_t + f_iCMA_t, \quad (1)$$

where  $R_{ft}$  is the risk-free return,  $R_{Mt}$  is the market return,  $SMB_t$  is the size factor,  $HML_t$  is the book-to-market value factor,  $RMW_t$  denotes the profitability factor, and  $CMA_t$  indicates the investment factor.

*Calculate ARs:* In the analysis, the author sought to quantify the financial effects of SCC practices on each event date by calculating the AR, which represents the difference between a firm's actual stock return on the event date and its expected stock return, which is the value of the stock return in a scenario where no SCC practices occurred on the same date. This calculation is represented by Equation 2:

$$AR_{it} = R_{it} - E(R)_{it}, \quad (2)$$

where  $AR_{it}$ ,  $R_{it}$  and  $E(R)_{it}$  are the abnormal, actual, and expected returns, respectively, for firm  $i$  on day  $t$ .

*Calculate CAR:* To assess the overall financial impacts of SCC practices on firms' stock returns, CAR for each SCC case. The CAR involves summing the ARs over all the five event dates. This calculation is represented by Equation 3:

$$CAR_i = ARD_i + ARA_i + ARP_i + ARJ_i + ARV_i, \quad (3)$$

where  $ARD_i$ ,  $ARA_i$ ,  $ARP_i$ ,  $ARJ_i$ , and  $ARV_i$  are the ARs of firm  $i$  on the event dates of detention, arrest, prosecution, judgement, and verdict, respectively.

*Test significant:* To assess whether the average CARs associated with SCC practices were significantly different from zero, the author employed a combination of statistical tests: the t-test and the Wilcoxon signed-rank test. These tests are used to analyze the statistical significance of the CARs, taking into consideration potential outliers that might affect the results. The t-test is a



parametric statistical test that examines whether the mean of a sample is significantly different from a specified value, in this case, zero. It assumes that the data follows a normal distribution. On the other hand, the Wilcoxon signed-rank test is a non-parametric test that evaluates whether the distribution of differences between paired samples (in this context, the CARs) is centered on zero. This test does not require the data to be normally distributed and is suitable for situations where the assumptions of the t-test may not hold.

# CHAPTER 4. RESULTS

This Chapter serves as a summarization of the research results across the three research phases. The results of each research phase are presented based on the corresponding dissemination activities conducted during the PhD study. Figure 11 provides an overview of the RQs, dissemination efforts, and empirical outputs throughout these three research phases.

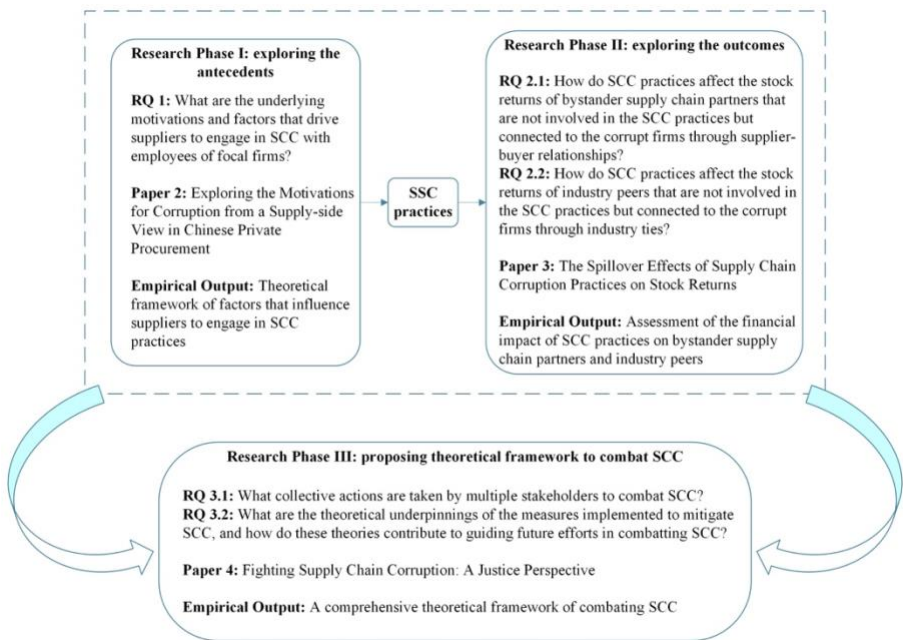


Figure 11 The Research framework of the thesis

As illustrated in Figure 11, in Research Phase I, an examination of the antecedents of SCC was conducted utilizing a case study methodology. The focal point of Paper 2 involved a comprehensive analysis of the determinants prompting suppliers' engagement in SCC practices within private procurement. The resulting empirical output is the formulation of a theoretical framework, elucidating the factors that motivate suppliers to partake in SCC practices.

Moving on to Research Phase II, the emphasis shifted towards the outcomes of SCC practices, specifically focusing on its spillover effects on stock returns through the application of the short-term event study method. The insights derived from this investigation are presented in Paper 3. The spillover effects were quantified through the calculation of ARs and CARs, offering a thorough assessment of the market

reactions experienced by both bystander supply chain partners and industry peers associated with corrupt firms.

Lastly, in Research Phase III, the objective was to explore potential countermeasures and propose a theoretical framework to combat SCC, employing a multi-case study approach. The collective actions among diverse stakeholders in addressing SCC issues are underscored in Paper 4.

The subsequent sections will provide a concise overview of the findings from each research phase. For a thorough and precise understanding of the subject matter, please refer to the attached papers in the APPENDED PAPERS section. Nevertheless, within the following sections, supplementary findings or illustrative instances will be presented to augment and complement the results outlined in the individual papers.

#### **4.1. PAPER 2: EXPLORING THE MOTIVATIONS FOR CORRUPTION**

Paper 2, titled “Exploring the motivations for corruption from a supply-side view in Chinese private procurement,” has been accepted as a conference proceeding by the 29th EurOMA Conference, presented in Appendix B. This paper delves into the factors that influence suppliers to engage in SCC practices, specifically focusing on the manifestation of SCC where suppliers bribe buyers’ employees to gain unfair advantages. This form of corruption has been extensively reported by Chinese media in recent years. By exploring this supply-side perspective, this paper sheds light on the reasons and drivers that lead suppliers to resort to unethical behaviors to gain advantages in their business transactions with buyers. It is imperative to investigate the factors behind such corruption practices in China, as argued by Millington et al. (2005: 261):

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*70–80% of suppliers give advantages to purchasing staff in the form of vouchers or even ATM cards. This situation in China in this regard will not change for the next 10 to 20 years. Millington et al. (2005: 261)*

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Diverging from the realm of public sector procurement, the term “private sector purchasing” pertains to transactions occurring within the scope of profit-oriented enterprises and privately owned companies. In Paper 2, our attention is directed towards SCC involving interaction between suppliers and employees in focal firms as a principal manifestation of corruption in private sector purchasing. In paper 2, we have defined SCC in private procurement based on Argandoña (2003)’s definition. SCC is characterized by the misuse of authority by employees within a buyer company

for personal, subunit, and/or organizational gain, with the aim of assisting suppliers in gaining unfair advantages. This definition allows us to identify three main groups of actors involved in SCC practices in private procurement: focal firms, corrupt suppliers, and the corrupt employees within the focal firms, as shown in Figure 12. Our research has revealed two distinct types of SCC practices in private procurement: pro-organizational SCC practices and proself SCC practices. In the case of pro-organizational SCC practices, suppliers engage in corrupt activities that ultimately benefit the supplier company as a whole. On the other hand, proself SCC practices involve individual or group actors within the focal firm engaging in corruption for personal gains. In this scenario, focal firms become victims of SCC. The collusion between corrupt suppliers and individuals or groups within the focal firms allows the suppliers to gain unfair advantages at the expense of the focal firm's interests by increasing costs or decreasing the quality of materials for the focal firm. Corrupt suppliers may take advantage of their illicit relationships with corrupt employees within the focal firm to inflate prices or provide substandard materials, ultimately compromising the quality of the final product or service. This increase in costs or decrease in quality can have detrimental effects on the focal firm's bottom line and overall competitiveness in the market. It may lead to higher production costs, reduced profit margins, and potential damage to the firm's reputation if customers receive products or services of inferior quality.

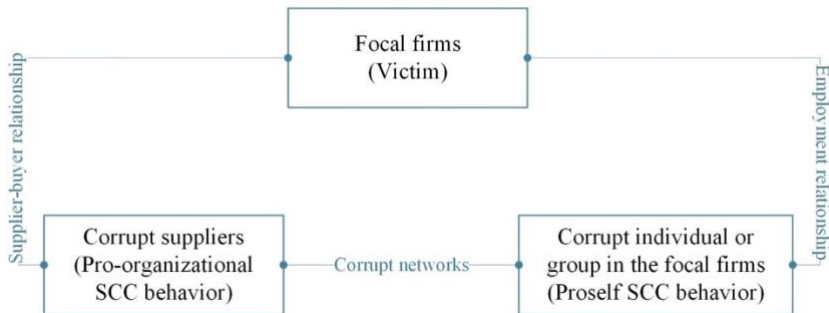


Figure 12 The main actors and their relationships (Wang et al., 2022)

According to the definition provided, individuals' possession of authorities or influence over specific functions, tasks, or responsibilities within a private organization or corporation is a crucial factor that enables them to act contrary to their duties and responsibilities, leading to SCC practices. In this thesis, we complement Paper 2 by elaborating high corruption risk-related authorities and the departments where individuals may hold such authorities in different procurement process, as illustrated in **Error! Reference source not found..** This allows us to have a fundamental understanding of why and when suppliers engage in SCC practices in the procurement process.

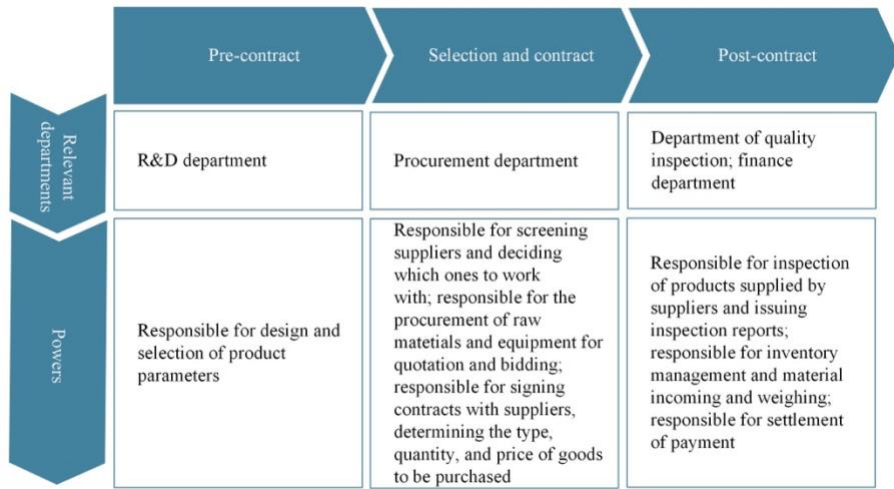


Figure 13 High corruption risk-related authorities and relevant departments in different procurement process

Following the categorization by Sanderson et al. (2015), we divided the procurement process into three phases: pre-contract, selection and contracting, and post-contract. During the pre-contract phase, individuals in the R&D department play a significant role in designing and selecting product parameters, granting them a margin of discretion in filtering potential suppliers. In this scenario, potential suppliers may attempt to bribe these individuals to gain preference for their products during the design process.

In the selection and contract phase, individuals from the procurement department are the key players. Those responsible for screening suppliers and deciding which ones to work with may show favoritism to suppliers who offer bribes. For example, individuals who are responsible for procuring raw materials and equipment by quotation and bidding, may be susceptible to receiving bribes from suppliers in exchange for providing insider information during the bidding process. In addition, those in charge of signing contracts with suppliers and determining the type, quantity, and price of goods to be purchased, may be targeted for bribery, since they may use their positions to increase orders and prices for suppliers who provide bribes.

In the post-contract phase, individuals from the quality inspection and finance departments may become involved. Quality inspection personnel are responsible for inspecting products supplied by suppliers and issuing inspection reports. In our research, we found that suppliers tend to bribe these individuals, whether quality issues occur or not. If quality issues arise, suppliers may bribe these individuals to cover up the problems. If no quality issues occur, some suppliers may still offer bribes to ensure that the individuals contact them directly to handle any future issues instead

of reporting them. Additionally, during this phase, suppliers may bribe individuals from the finance department to expedite payment processes.

In conclusion, Paper 2 sheds light on the motivations behind SCC practices at both the organizational and isomorphic levels, as depicted in Figure 14. At the organizational level, we observed that the supply side (suppliers) is driven to engage in SCC practices due to several imperatives. These include financial imperatives, where bribes are offered to gain financial advantages, reputational imperatives, where bribes are given to enhance the company's reputation in the industry, and relational imperatives, where bribes are used to build and maintain long-term relationships with buyers. At the institutional level, we identified three key factors that can lead suppliers to be involved in SCC practices. These factors are competitive isomorphism, where suppliers may offer bribes to gain an edge over their competitors in a highly competitive market, coercive isomorphism, where suppliers may feel compelled to give kickbacks to employees in charge of business to retain orders and profits, mimetic isomorphism, where suppliers may imitate corrupt behaviors by competitors, and normative isomorphism, where SCC practices become institutionalized and normative as an unwritten rule within the business environment.

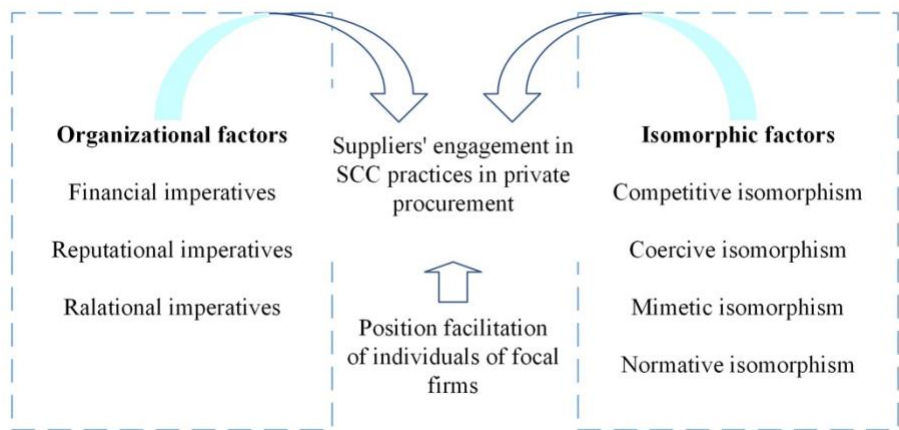


Figure 14 A theoretical model of drivers of SCC from the supply side (Wang et al., 2022)

## 4.2. PAPER 3: SPILLOVER EFFECTS OF SUPPLY CHAIN CORRUPTION PRACTICES

Paper 3, titled “The spillover effects of supply chain corruption practices on stock returns,” has been published in International Journal of Operations & Production Management, presented in Appendix C. This paper focuses on investigating the outcomes of SCC, specifically the spillover effects it has on the stock returns of bystander supply chain partners and industry peers of corrupt firms. In the published paper, the hypotheses are developed based on the existing literature. In this thesis, additional theoretical perspectives are presented in section 2.2. The complementing theoretical perspectives aim to enrich the understanding of the underlying mechanisms that drive the observed spillover effects. By integrating these additional theoretical insights, the thesis seeks to enhance the theoretical framework and provide a more nuanced interpretation of hypotheses. The hypotheses are as follows:

H1: SCC practices have a negative effect on the stock returns of corrupt firms’ bystander supply chain partners.

H2: SCC practices have a more negative effect on the stock returns of bystander buyers than bystander suppliers.

H3a: SCC practices have a negative effect on the stock returns of corrupt firms’ industry peers.

H3b: SCC practices have a positive effect on the stock returns of corrupt firms’ industry peers.

Based on an analysis of 117 SCC practices in China between 2014 and 2021, the empirical evidence substantiates the validity of H1 and H2 hypotheses. However, in contrast, H3a and H3b hypotheses are rejected. The event study results demonstrate that SCC practices have a negative impact on the stock returns of corrupt firms’ bystander supply chain partners. Notably, this negative effect is more pronounced for bystander buyers compared to bystander suppliers. Additionally, the analysis also explores the impact of SCC practices on overseas bystander supply chain partners. The results suggest that SCC practices do not significantly impact the stock returns of these overseas partners. This observation implies that SCC practices may not have the ability to spill over across national borders, indicating a potential limitation to the extent of their impact beyond the domestic supply chain. Furthermore, the study finds that SCC practices do not significantly affect the stock returns of corrupt firms’ industry peers, indicating that neither the negative diffusion effect nor the positive competitive effect prevails in the intra-industry context. In other words, SCC practices do not exert a substantial influence on the stock returns of other companies within the same industry. Paper 3 provides valuable insights into the spillover effects of SCC practices in the context of the Chinese market. By shedding light on the differential impact of SCC practices on various actors within the supply chain and industry, the study contributes to a deeper understanding of both vertical and lateral spillover effects of SCC practices.

### 4.3. PAPER 4: FIGHTING SUPPLY CHAIN CORRUPTION

Paper 4, titled “Fighting supply chain corruption: A justice perspective,” has been submitted to and in review process with International Journal of Operations & Production Management. This paper traces the collective actions undertaken by multiple stakeholders to combat SCC and seeks to investigate the theoretical underpinnings that form the bedrock of these collaborative efforts. The research identifies three distinct categories of collective actions, including interactions between FFs and government agencies, supply chain collective actions, and FF-NGO collective actions. According to Huo et al. (2016), justice plays a vital role in shaping collaborative and opportunistic behaviors within supply chain relationships. Building on this understanding, we examined how justice theories can provide guidance for the implementation of collective measures to effectively combat SCC. The paper is presented in Appendix D. In this thesis, instances of these collective actions are provided.

The first category is interactions between FFs and government agencies. For instance, a noteworthy declaration in Tencent’s 2021 annual report highlights the company’s commitment to leveraging the legal framework provided by government agencies in addressing SCC issues. As Tencent declared in its 2021 annual report:

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*According to the Law against Unfair Competition in the PRC, business operators shall not use monies, assets, or other means to bribe an entity or individuals to obtain transaction opportunities or competitive advantage. According to the Criminal Law of the People’s Republic of China, corruption and bribery may constitute a serious criminal offence. We strictly comply with the local anti-corruption and bribery laws and regulations.*

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The second category is supply chain collective actions. In the context of supply chains, where multiple entities are interdependent, this paper delves into collective actions aimed at combating corruption. It examines how various supply chain actors collaborate to address SCC and reveals three collective actions, including anti-corruption declaration, supply chain monitoring, and ethical risk assessment.

**Anti-corruption Declaration:** For instance, Tencent required all its suppliers in Mainland China to sign the anti-commercial bribery declaration, as stated:



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*As of 31 December 2021, all suppliers have been required to comply with the Tencent supplier management policy, and all suppliers in the Mainland of China have been required to sign the anti-commercial bribery declaration.*

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**Supply Chain Monitoring:** The objective of this approach is to ensure that complaints and concerns are promptly addressed, thereby minimizing the potential for corruption within the supply chain, as stated by Tencent:

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*The supplier management system also provides communication channels for suppliers to collect their feedback or complaints. Fraud complaints will be directly transferred to the anti-fraud investigation department for follow-up. The goal is to ensure that suppliers' complaints and concerns can be resolved in a timely manner, thereby minimizing the risk of fraud.*

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**Ethical Risk Assessment:** For example, Tencent's suppliers are required to disclose any existing relationships they may have with Tencent's employees in written form, thereby promoting transparency and integrity in the procurement process, as stated:

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*The supplier management policy stipulates the requirements and practices for supplier legal and regulatory compliance, supplier selection and evaluation. The policy is also set to manage the ethical risks associated with the relationships between our procurement employees and business partners. The policy and the Sunshine Code specify standardized processes for procurement employees when engaging in procurement activities. Suppliers are required to declare any relationship they may have with our employees in written form. Suppliers to conduct business with the company is an ethical manner.*

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These supply chain collective actions demonstrate the FFs' commitment to fostering a culture of anti-corruption and ethical behavior throughout their supply chains. By implementing these measures, FFs not only hold themselves accountable but also encourage their suppliers and business partners to uphold similar standards of integrity

and compliance. Ultimately, these collective efforts contribute to the ongoing fight against SCC and help create a more resilient and ethical supply chain ecosystem.

The third category is FF-NGO collective actions: NGOs often play a pivotal role in the fight against corruption. The study sheds light on how FFs and NGOs come together in collective efforts to combat, as stated by GSK in its ESG performance report 2021:

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*GSK remains committed to upholding the UNGC's Ten Principles on human rights, the environment and anti-corruption. We aim to do this through embedding our policies and standards across our business and remaining true to our purpose.*

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The UNGC's Ten Principles on anti-corruption is articulated as:

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*Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.*

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## CHAPTER 5. DISCUSSION

Every scientific study endeavor to address significant RQs, enriching the existing body of literature from theoretical and practical viewpoints. However, the research designs inevitably encounter limitations that may spark further RQs. As a result, there is an ongoing dialogue to be had when delving into the discussion of scholarly endeavors. This chapter serves as a reflective examination of the present research project, discussing limitations and avenues for future research.

The three individual studies, namely Paper 2-4, contribute valuable insights to the understanding of the emerging topic, SCC, in OSCM domain. However, it is essential to acknowledge certain limitations in each of these studies to ensure the research's validity and inform future research directions.

Paper 2 explores the antecedents of SCC through case study. The findings are context-specific to SCC practices in China. First, as with any case study, the findings are context-specific and may not be readily generalizable to other contexts beyond China. While focusing on SCC practices in China provided valuable insights due to its prevalence, further research across different countries and regions is needed to understand the variations and nuances of SCC in diverse settings. Particularly, exploring SCC in developed markets, where the perception and dynamics of corruption may differ, could offer comparative insights. Second, this study primarily focused on organizational-level and institutional-level factors. While these factors provided meaningful contributions to understanding the occurrence of SCC, it is essential to acknowledge that individual-level and macro-level factors might also play significant roles in driving suppliers to engage in SCC practices. Therefore, future research could delve into these additional levels of analysis to gain a more comprehensive understanding of the complex determinants of SCC. Third, in addition to the aforementioned limitations, it is important to acknowledge that our focus in Paper 2 was specifically on cases where suppliers engaged in SCC practices as the supply side of corruption, offering bribes, kickbacks, and benefit fees to their buyers. While this approach aligns with the methodologies used by Kim and Wagner (2021) and Wang et al. (2023), it inevitably overlooks a scenario, albeit rare, where buyers may initiate corruption by bribing their powerful suppliers to obtain key products or services. Investigating such scenarios may yield different findings and present valuable insights, thus warranting further investigation. Finally, we recognize that the study primarily centered on exploring the supply side of corruption, focusing on the actions of suppliers engaging in SCC practices. However, as highlighted by Ashforth et al. (2008), it is crucial to adopt a systemic view when examining corruption, encompassing both the supply side and the demand side of corruption to gain a deeper and comprehensive understanding. In most supply chain contexts, the demand side is represented by the buyers, and exploring their potential role in SCC practices can provide a more holistic understanding of the dynamics and complexities of corruption.

within supply chains. Therefore, future research efforts should extend beyond the supply side and explore the demand side of corruption, involving both suppliers and buyers. Adopting a systemic view will contribute to a more nuanced and comprehensive understanding of the antecedents and drivers of SCC, offering valuable insights into the dynamics and interactions between various actors within supply chains. By addressing these aspects, future studies can contribute significantly to the ongoing research on the antecedents of SCC.

Paper 3, which examines the spillover effects of SCC practices, also faces certain limitations. First, the sample size of corrupt suppliers in the study is relatively small, primarily due to the rarity of publicly listed firms engaging in SCC practices as the supply side, given the strict regulations in place. To address this limitation, future research could consider expanding the sample size by including private firms, particularly small and medium-sized enterprises and exploring the effects of SCC practices using non-stock price data, such as sales. Second, the study only considers firms that were involved in SCC practices after 2018 to match their bystander supply chain partners, as the data on Chinese firms became available in Bloomberg SPLC from that year. This restriction may have narrowed the scope of the original sample. Future research could overcome this limitation by examining other supply chain databases to investigate the lateral spillover effect of SCC practices on bystander supply chain partners prior to 2018. Third, the analysis in the study focuses solely on the short-term stock price movements of firms due to SCC practices. While this provides valuable insights into the immediate impact, it leaves an interesting avenue for future research to explore the potential long-term implications of SCC practices on firms' stock market performance. Lastly, similar to the approach taken by Kim and Wagner (2021) and Wang et al. (2022), the study concentrates on cases where suppliers engaged in SCC practices as the supply side of corruption, offering bribes, kickbacks, and benefit fees to their buyers. However, a scenario in which buyers may bribe their powerful suppliers, although rare, could have different spillover effects and warrants further investigation in future research. Addressing these limitations in future research will enhance the robustness and applicability of the findings, leading to a more comprehensive understanding of the spillover effects of SCC practices and their impacts on bystander supply chain partners.

Indeed, Paper 4 on countermeasures in this thesis has brought valuable insights, but it is important to acknowledge its limitations. First, despite efforts to identify collective actions by FFs and their stakeholders, there may be other initiatives in combating SCC among different FFs that were not captured in this study. To address this, future research could adopt larger samples and utilize text mining or other computer-aided methods to comprehensively identify and analyze anti-SCC efforts across a broader spectrum of firms. Second, while the research develops an anti-SCC theoretical framework based on the efforts of the selected FFs, it does not provide a comprehensive analysis to the effectiveness of these measures in actually combating SCC. Future research could conduct in-depth evaluations and case studies to assess

the outcomes of various anti-SCC initiatives and their impact on reducing corruption in supply chains. Finally, the research relies on the publicly available information and corporate reports, which may limit the depth of insights into some anti-SCC measures and the actual implementation processes. Future studies could consider employing qualitative research methods, such as interviews and surveys, to gather more detailed and nuanced information about the collective efforts among multiple stakeholders.

# CHAPTER 6. CONCLUSION

In conclusion, this thesis has delved deep into the intricate and often overlooked domain of SCC, exploring its antecedents, outcomes, and countermeasures. This concluding chapter serves as the synthesis of the research journey, highlighting the key findings, theoretical implications, and practical implications of this research.

## 5.1. KEY FINDINGS

The research begins by the exploration of the motivations and factors compelling suppliers to engage SCC practices, encompassing both the organizational and isomorphic dimensions. At the organizational level, the interplay of financial, reputational, and relational imperatives impels suppliers towards participation in SCC activities. Simultaneously, isomorphic pressures, notably inclusive of competitive, coercive, mimetic, and normative isomorphism, exert a significant role in the perpetuation of such unethical practices. Additionally, the thesis investigates both vertical and lateral spillover effects of SCC practices. The empirical analysis unveils the negative effects of SCC practices on stock returns of bystander supply chain partners, with a notable emphasis on buyers. In contrast, the impact of SCC practices on the stock returns of industry peers affiliated with corrupt entities remains insignificant. Lastly, the thesis undertakes an exploration of countermeasures against SCC from a justice perspective. The endeavor to combat SCC necessitates collective actions by multiple stakeholders, encompassing not only FFs and their supply chain partners, but also entailing interactions between FFs and governmental agencies, as well as collaborative initiatives involving FFs and NGOs. Underlying anti-SCC measures taken by these actors, FJ, justice in supply chains, and SJ serve as a theoretical foundation.

## 5.2. THEORETICAL IMPLICATIONS

The thesis addresses a significant knowledge gap in the OSCM literature by investigating the relatively unexplored topic of SCC. This section elaborates the theoretical implications based on Paper 2-4.

Firstly, regarding antecedents of corruption, it enriches the literature on the antecedents of private-to-private corruption. Indeed, existing literature on corruption has primarily focused on the antecedents of private-to-public corruption (e.g., Baron et al., 2018; Martin et al., 2007; Rabl and Kühnmann, 2008; Yi et al., 2018), which involves interactions between private actors and public officials. However, the antecedents of private-to-private corruption, such as SCC practices in private procurement, have received comparatively less attention. Paper 2 aims to address this research gap by investigating the factors that influence suppliers to engage in SCC

practices in private procurement, which are representative examples of private-to-private corruption in the context of supply chains. By exploring this topic, we seek to shed light on the complexities of corruption within private business interactions. In addition, as mentioned in Section 1.2.2, Silvestre et al. (2018) explored the role of the stakeholder collaboration in initiating SCC and Arnold et al. (2012) investigated organizational-level factors that influence a firm's inclination in engaging in SCC. It is beyond the scope of these two studies to explore the antecedents from the perspectives of the supply side or demand side of corruption. An exception is Ntayi et al. (2013), investigating the relationship between moral schemas and corruption in public procurement from the perspective of public procurement staff that represent the demand side of corruption. However, little is known about the factors that influence the supply side of corruption to engage in corruption behavior. Paper 2 fill this research gap. Furthermore, Paper 2 employs theories on rational action and competitive and institutional isomorphism to explain the antecedents of SCC and provide a theoretical foundation for future research to explore antecedents of SCC.

Secondly, while prior research (e.g., Kim and Wagner, 2021) has investigated the impacts of SCC practices on corrupt firms' stock returns, little has been explored regarding how this impact might extend to non-corrupt firms connected to the corrupt entities through buyer-supplier relations. Our study extends our comprehension of financial implications of SCC practices beyond corrupt firms by investigating the spillover effects along the supply chain. Our findings might motivate future research to delve into the exploration of spillover effects beyond the first-tier bystander suppliers and buyers analyzed in our study, investigating the influence of SCC practices across multi-tier supply chains. Furthermore, our study contributes to the spillover effects literature associated with corruption-related activities. While earlier research examined spillovers through diverse inter-organizational links like industry ties, director interlocks, country-of-origin factors, and listing methods, scant attention has been paid to the role of buyer-supplier relationships in propagating the negative impacts of corruption-linked practices. This insight might prompt further inquiry into whether other corruption-related practices also spill over via supply chain connections. Unlike studies that observed either positive or negative intra-industry spillover effects (Goldman et al., 2012; Paruchuri and Misangyi, 2015; Xu et al., 2006), our study reveals that SCC practices do not significantly influence the stock returns of corrupt firms' industry peers. This different finding suggests that SCC practices, given their supply chain attributes, might produce distinct spillover effects compared to other corruption practices. Moreover, our research holds valuable implications for future research using the event study method. By adopting a process-oriented approach to SCC, we pinpoint five critical stages, corresponding to five event dates for an SCC case. We compute a firm's AR on each event date and sum these across the five to reflect the comprehensive stock price influence of an SCC case on the concerned firm. Our approach, in contrast to those based on singular key stage or event date, provides a more holistic and accurate assessment of the overall impact of an SCC case (Sood and Tellis, 2009; Wu et al., 2015). We believe this methodology

offers a valuable guideline for forthcoming event studies probing SCC practices and corruption practices in general.

Thirdly, while earlier studies (Halter et al., 2009; Miroslav et al., 2014; Padhi et al., 2016) have examined measures aimed at combating SCC, their focus has largely been on specific strategies undertaken by individual FFs or governmental entities. Consequently, there exists a gap in the literature, resulting in an absence of a comprehensive understanding of collective actions across diverse stakeholders in the fight of SCC. SCC is a complex trans organizational phenomenon necessitating joint efforts for effective mitigation, which entails interactions among multiple entities within the supply chain, surpassing the confines of individual organizations and involving the cooperation of suppliers, buyers, and other chain members. Given the limitations of individual firms in addressing SCC, collaborative initiatives enable the consolidation of resources, expertise, and influence, thereby facilitating the implementation of anti-corruption measures. Hence, within Paper 4, our investigation delves into collective actions undertaken by focal firms and their supply chain partners, the interactions between FFs and governmental agencies, as well as joint endeavors between FFs and NGOs. Thus, Paper 4 enriches the understanding of how different stakeholders collectively address corruption challenges. Furthermore, the integration of justice perspectives into the analysis of anti-corruption measures adds a novel theoretical lens to the research domain, enhancing the theoretical landscape to guide both practitioners and OSCM scholars to make further efforts in combating SCC.

### **5.3. MANAGERIAL IMPLICATIONS**

The findings from Paper 2-4 suggest important managerial implications related to SCC. Firstly, by shedding light on the factors that drive suppliers to resort to corrupt practices, Paper 2 equips managers and practitioners with valuable insights into the underlying dynamics of SCC. This understanding can aid in the formulation of effective strategies to prevent and mitigate SCC within their supply chains. Specifically, when managers of buyers have a deeper understanding of motivations of suppliers to engage in SCC, they could select suppliers to avoid the suppliers who have strong bribe intentions in some specific scenarios. Additionally, in this thesis, we added insights in high corruption risk-related authorities and relevant departments in different procurement process. When managers of buyer organizations possess a comprehensive comprehension of relevant high-risk positions and departments during different procurement phases, they are better equipped to develop and implement robust internal control mechanisms. This deeper understanding empowers them to identify potential vulnerabilities, gaps, and areas where corruption might be more likely to occur. Furthermore, armed with this knowledge, managers can take proactive measures to initiate collaborative efforts with their suppliers to counteract SCC collectively. By fostering a transparent and ethically sound environment, buyers can



contribute significantly to the prevention and mitigation of SCC, leading to improved overall supply chain integrity and sustainable business practices.

Secondly, Paper 3 demonstrates that SCC practices result in an average reduction of 1.23% in stock returns for corrupt firms' bystander supply chain partners, equating to a 1.07 billion RMB decrease in market value. Notably, this difference is statistically insignificant ( $p > 0.1$ ), suggesting that investors perceive SCC practices as collective behaviors. Consequently, firms should not only prevent their own involvement in corruption but also avoid associations with corrupt supply chain partners. Interestingly, the impact of SCC practices varies across bystander supply chain partners. Bystander buyers' stock returns are more negatively affected than those of bystander suppliers. This suggests that investors and the public tend to associate culpability with buyer firms more readily, aligning with literature on accountability for SCC. With resource allocation decisions crucial (OECD, 2016), our finding advises firms to focus on addressing upstream corruption to minimize financial impact. Furthermore, our supplementary analysis supports the common belief that SCC practices have negative financial ramifications for corrupt firms. We find that SCC practices lead to an average stock return reduction of 1.83% per corrupt firm, translating to a substantial 1.19 billion RMB market value decrease. This far exceeds typical benefits from corruption or court penalties. Hence, our study underscores the importance of firms' attention to SCC practices due to their potentially higher-than-anticipated negative financial consequences.

Thirdly, Paper 4 offers significant managerial insights by shedding light on the collective efforts of various stakeholders aimed at curbing SCC. Through a comprehensive analysis of the collective actions taken by FFs and their supply chain partners, government agencies, and NGOs, this paper provides valuable guidance for managers. Managers gain a deeper understanding of the collaborative dynamics required to combat SCC effectively. Engagement with government agencies represents a crucial facet in the fight against SCC. By collaborating with regulatory bodies and law enforcement, organizations can contribute to the creation and enforcement of anti-corruption policies and regulations. These interactions involve sharing information, reporting corrupt practices, and seeking legal recourse against offenders. Effective interactions with government agencies require strategic alignment, proactive communication, and a commitment to upholding ethical standards. Such collaborations can lead to a more robust anti-corruption ecosystem, fostering transparency and accountability across supply chains and industries. In addition, FFs can initiate collective supply chain actions to combat SCC. This approach acknowledges that SCC is a trans organizational challenge that necessitates a unified response. Key actors, such as FFs, suppliers, buyers, and other chain members, join forces to collectively address corruption-related issues. These actions encompass various strategies, for instance, information sharing, joint policies and guidelines, mutual monitoring, supplier audits, and whistleblowers mechanisms. By fostering collective supply chain actions against SCC, organizations can effectively

pool their resources, expertise, and influence to create a robust anti-corruption environment. This collaborative approach minimizes vulnerabilities, strengthens ethical practices, and helps to build a resilient and sustainable supply chain ecosystem. Moreover, managers can strategically engage in collective actions NGOs to combat SCC by following a well-defined approach that leverages the expertise and resources of both parties. By strategically partnering with NGOs, managers can leverage their expertise, credibility, and resources to create a more comprehensive and impactful approach to combat SCC within their supply chain. This collaborative effort not only strengthens the organization's anti-corruption efforts but also contributes to a broader movement towards ethical and transparent business practices. Furthermore, the paper highlights the pivotal role that justice theories play in shaping the behaviors of supply chain actors, offering managers a strategic framework to formulate and implement anti-corruption measures. This understanding empowers managers to foster a transparent and ethical supply chain environment, where collaborative initiatives and justice-oriented interventions contribute to minimizing the incidence and impact of SCC.

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APPENDED PAPERS

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## **Appendix A.**

### **Paper 1. Business corruption: A systematic review and future agenda**

Wang, G. and Cheng, Y., “Business corruption: A systematic review and future agenda”, manuscript



## **Appendix B.**

### **Paper 2. Exploring the motivations for corruption from a supply-side view in Chinese private procurement**

Wang, G., Cheng, Y., & Wang, Y. (2022). Exploring the motivations for corruption from a supply-side view in Chinese private procurement. In 29th International Annual EurOMA Conference, Berlin, Germany.

## **Appendix C.**

### **Paper 3. The spillover effects of supply chain corruption practices on stock returns**

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## **Appendix D.**

### **Paper 4. The spillover effects of supply chain corruption practices on stock returns**

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