The relational focus of small and medium sized actors' understandings of supply chain finance (SCF)

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Abstract

Purpose: To investigate small and medium-sized upstream suppliers' and downstream distributors' understandings of supply chain finance (SCF) arrangements and their decisions to adopt such schemes.

Design/methodology/approach: Grounded theory-informed methods are employed, involving 56 in-depth interviews with informants from small and medium-sized enterprises (SMEs), banks and subject experts in the UK and Thailand. A category structure for the data is developed. The findings are then examined systematically from both a transaction cost economics (TCE) and non-TCE perspective.

Findings: SME members made sense of SCF through a core distinction between dyadic and triadic SCF arrangements. The former maintains independence between physical and financial supply chains, whereas the latter causes them to be closely coupled or even entangled. The SCF adoption decisions of SMEs were based on a consideration of four related aspects: relationality, awareness, control, and context. We demonstrate the limits of TCE in explaining our findings, leading to a proposed combined theory of the transactional and, importantly, non-transactional influences on how SMEs make decisions about SCF.

Practical implications: Focal firms wanting their SME suppliers and distributors to participate in triadic SCF, i.e. reverse factoring and distributor finance, need to understand that transitioning to such schemes involves the unwinding of existing financing arrangements, which may be problematic for SMEs. Moreover, it is important to be aware of SMEs' concerns, such as about what accessing triadic SCF might signal to the focal firm about their financial health and about the potential loss of control that might result from entangling the physical and financial aspects of supply chains.

Originality/value: We unpack the perspectives of both SME suppliers and distributors of large focal firms in supply chains. These firms appear less concerned with the economic advantages (transaction costs) of SCF and more concerned with the relational consequences or non-transactional costs of participation in a triadic SCF arrangement. The dyadic-triadic distinction provides a new and meaningful way of categorising

SCF mechanisms, which also broadens the service triads literature from a focus on outsourcing services for a focal firm's customers to outsourcing financing for its suppliers or distributors. The paper also addresses gaps identified by Gelsomino et al. (2016) regarding the need for a general theory of SCF, for empirically-based holistic studies of SCF applications, and a tool for selecting SCF mechanisms.

Keywords: Supply chain finance, Distributor finance, Reverse factoring, Service triads

Paper type: Research paper

1. Introduction

The topic of supply chain finance (SCF) has attracted increasing attention over the last decade, rebalancing a supply chain management literature that has concentrated more on physical and information flows than financial flows (Blackman et al., 2013; Wuttke et al., 2013b; Silvestro and Lustrato, 2014). It has recently come to particular prominence in two important ways. The first is the imperative that supply chains have efficient access to working capital to aid economic recovery from the consequences of the global COVID-19 pandemic (Hofmann et al., 2021), as business failures in the aftermath of economic downturns often arise from over-trading during the recovery phase. The second is the scandals that have developed around the provision of SCF, most recently at Greensill (Wass, 2021) but also earlier at Carillion, where SCF arrangements were used to force extended payment terms on suppliers before the firm went into liquidation whilst still owing £2 billion to its 30,000 SME suppliers (Business Energy and Industrial Strategy and Work & Pensions Committees, 2018). Both the working capital imperative and the scandals particularly concern the smaller, less powerful members of supply chains, i.e. small and medium-sized enterprises (SMEs) who are either suppliers to or distributors of large, focal firms for which SCF is often regarded as being of particular benefit (Hofmann and Zumsteg, 2015; Lekkakos and Serrano, 2016). Yet, these smaller actors, which are the primary focus of this paper, are under-represented in the SCF literature.

Although some prior research has pointed to the reluctance of suppliers to adopt SCF (Wuttke et al., 2016; Wuttke et al., 2019), the literature has primarily focused on the large, focal firm perspective, placing less emphasis on their supply chain partners (e.g. Wuttke et al., 2013b; Caniato et al., 2016; Guida et al., 2021; Shou et al., 2021), especially on SMEs. Yet the apparent reluctance to adopt SCF on the part of suppliers is also important to focal firms as the successful implementation of SCF is determined by the degree of participation and frequency of transactions with suppliers and distributors (Dunn, 2011; Hofmann and Zumsteg, 2015). Despite recent studies increasingly incorporating the supplier perspective, this has mainly been done in the context of large suppliers (Iacono et al., 2015; Liebl et al., 2016) rather than SMEs, which generally employ fewer than 250 employees and have a turnover of less than €50m (European Commission, 2015).

A few recent papers have however started to pay attention to SMEs (de Goeij et al., 2021; Zhang et al., 2021). Most emphasis in this recent work has been on the perspective of SME suppliers and the

upstream application of SCF (de Goeij et al., 2021; Zhang et al., 2021), neglecting the perspective of distributors and the downstream application of SCF (Hofmann and Zumsteg, 2015). A novel exception is Hofmann and Zumsteg (2015), who modelled the triple-win benefits of distributor finance – a downstream SCF mechanism – referred to by the authors as an accounts receivable platform program or export financing. Meanwhile, Caniato et al. (2016) included some downstream SCF mechanisms in their study, e.g. inventory financing, vendor-managed inventory (VMI), and consignment stock, but their primary focus was on the focal firm.

Relatively little is still known about SCF from an SME perspective. We argue here that the successful adoption and implementation of SCF requires an insight into how SMEs, including both suppliers and distributors of large focal firms, construct their understandings of SCF and make decisions about participation. We thus aim to address the following question:

RQ. How do small and medium sized supply chain members construct their understandings of, and make decisions about, supply chain finance?

Our study reveals how SMEs understand the nature and consequences of SCF relationships; and how these understandings lead to a particular, novel way of categorising SCF practices as either dyadic or triadic, which differs from categorisations adopted in the prior literature. We also demonstrate that transaction cost theorising, despite providing a useful explanation, is inadequate for fully explaining the decision making of SMEs. We show that the way in which these actors make decisions about SCF is more relational and contextual than purely technical and transactional, and this provides a new perspective on SCF that complements understanding in the extant literature. Our study also addresses gaps identified by Gelsomino et al. (2016), i.e. the need for a general theory of SCF, more empirically-based holistic research on SCF applications, and a tool to help managers select between SCF mechanisms. By employing a grounded theory approach to study SCF mechanisms, emergent theory grounded in the collected data is developed. In addition, the main categories derived from the findings can be used as a tool for SMEs to make decisions about whether to participate in SCF schemes.

The remainder of this paper is organised as follows. In Section 2, the SCF literature and relevant theories are reviewed before Section 3 outlines the research design. The findings are presented in Section 4, organised around a core category concerned with the distinction between dyadic and triadic forms of SCF and four major categories related to relationality, awareness, control, and context. A discussion follows in Section 5 where we unpack the theoretical insights that our findings yield by first using TCE and then going beyond the TCE lens, resulting in a series of three propositions and a conceptual model that incorporates the combined influence of transactional and non-transactional (relational) considerations on SCF adoption by SMEs. Finally, we conclude the paper in Section 6, including implications for research and practice.

2. Literature review and relevant theories

It is important to note that although this manuscript is organised conventionally, the detailed literature review that now follows was conducted after data collection and analysis to enable a grounded theory approach to be adopted (Charmaz, 2006; Suddaby, 2006). No theory was committed to before data collection and analysis (Corbin and Strauss, 2015). Rather, the theoretical concepts and framework were rooted in and derived from the study (Glaser and Strauss, 1967). Nonetheless, the core category that emerged from the data analysis – dyadic *versus* triadic SCF – is used to categorise the SCF mechanisms discussed in this literature review (see Section 2.2).

2.1 Supply Chain Finance

SCF has been attracting substantial and increasing attention in the academic literature, with a number of special issues being published in journals that are core or cognate to the field of operations and supply chain management (e.g. Birge, 2007; Rogers and Leuschner, 2015; Babich and Kouvelis, 2018; Choi and Ivanov, 2019 and 2020; Chen et al., 2021). The literature has grown to the extent that several systematic literature reviews have now been published, dealing with articles primarily appearing in either the supply chain or finance literatures (e.g. Gelsomino et al, 2016; Jia et al., 2020). Among these reviews, Gelsomino et al. (2016) highlighted four key gaps: (i) the lack of a general SCF theory; (ii) inadequate empirically-based holistic analyses of the use of SCF; (iii) limited understanding of the impact of adoption on financial performance; and, (iv) the lack of tools available to support firms in selecting a SCF solution. Three of these four gaps will be addressed in this paper.

A large part of the literature deals with optimisation-based analysis (e.g. Gelsomino et al., 2019). Nonetheless, there is a growing appreciation of the need to study how adoption and participation decisions are made in practice. Some of this work concerns the reasons for adoption (Wuttke et al., 2013b; Liebl et al., 2016; Caniato et al., 2019). This work suggests that the primary objective is for the focal firm to extend payment terms (van der Vliet et al., 2015; Liebl et al., 2016), although some focal firms aim to reduce risk from over-trading suppliers (Caniato et al., 2016; Liebl et al., 2016) or achieve process simplification (Liebl et al., 2016). The literature also provides analyses of the enabling factors (Liebl et al., 2016; Martin and Hofmann, 2019) and barriers (More and Basu, 2013; Liebl et al., 2016) to adoption. These include the firms' specific working capital goals (Wuttke et al., 2013b; Iacono et al., 2015; Martin and Hofmann, 2019; Wang et al., 2020), the nature of collaborative arrangements (Caniato et al., 2016; Wandfluh et al., 2016) , trust (Liebl et al., 2016; Ma et al., 2020), the size of a firm's accounts receivables (Iacono et al., 2015; Liebl et al., 2016; Wuttke et al., 2016; Martin and Hofmann, 2019), and access to other financing options (Lekkakos and Serrano, 2016; Wuttke et al., 2016; Wuttke et al., 2019). Recent work has also examined the impact of SCF on service providers' financial risk and the role of digital platforms in supporting SCF adoption (e.g. Lam et al., 2021; Song et al., 2021).

The power of the focal firm appears to be an important factor affecting its supply chain partners' participation in SCF (Caniato et al., 2016; Wuttke et al., 2016; Wuttke et al., 2019), often related to dependence in trading relationships (Wuttke et al., 2013b; Liebl et al., 2016; Martin and Hofmann, 2019). Thus, Wuttke et al. (2019) referred to both efficiency motives and legitimacy motives behind SCF adoption, with the latter arising from institutional pressures that are mostly mimetic and normative but that are also coercive when the stakes are high for the focal firm. This is consistent with the earlier study by Wuttke et al. (2016), which found that exposure to successful cases of adoption can facilitate supplier involvement in SCF adoption, both by providing a model to replicate and a standard to which there may be pressure to conform. A recent study by Banerjee et al. (2021) revealed reasons behind suppliers' non-adoption of SCF, which was perceived to be unfair despite its monetary benefits.

2.2 SCF Mechanisms and the Proposed Dyadic-Triadic SCF Distinction

A wide variety of SCF mechanisms are identifiable in the literature. Some involve only partners from the traditional supply chain, such as in a VMI arrangement (e.g. Caniato et al., 2016); but, for the most part, the literature deals with SCF provision from external providers, mainly financial service providers (FSPs), in particular banks (Silvestro and Lustrato, 2014; Song et al., 2021) as well as new entrants like logistics service providers (LSPs) (Chakuu et al., 2020; Elliot et al., 2020) and SCF providers (Lam and Zhan, 2021). Prior research contributions have been insightful but limited to only one (Wuttke et al., 2013a; Liebl et al., 2016) or a few SCF mechanisms (Gelsomino et al., 2019; Wu, 2019), or focused predominantly on the upstream end of the supply chain only (Wuttke et al., 2013b; Martin and Hofmann, 2019), ignoring the downstream part.

Literature has categorised SCF mechanisms in a number of ways, including based on timing (i.e. pre and post shipment finance) (More and Basu, 2013; Wuttke et al., 2013b), the type of collateral used (i.e. fixed asset, inventory, accounts receivable, or accounts payable) (Chakuu et al., 2019), and who initiates the arrangement (i.e. supplier-led or buyer-led) (Babich and Kouvelis, 2018). These categorisations, however, somewhat overlap and disregard the possibility of coupling or entangling in SCF relationships. Our newly proposed categorisation of SCF, i.e. dyadic SCF (DSCF) and triadic SCF (TSCF), is abductively conceptualised from the collected data on the basis of dyad-triad debates (e.g. Wu and Choi, 2005; Wynstra et al., 2015). This distinction between DSCF and TSCF arrangements was clearly made by the participants, whereby DSCF is a relationship that an SME supplier or distributor has with its own bank and TSCF is a relationship an SME supplier or distributor has with a focal firm and the focal firm's bank.

Much of the interest in SCF has centred on one type of mechanism – reverse factoring (RF) – where a focal firm's bank provides early payment to suppliers on behalf of the focal firm (as a buyer) against approved invoices (e.g. Iacono et al., 2015; Lekkakos and Serrano, 2016; Wuttke et al., 2019). We categorise RF as one of two TSCF mechanisms. The other TSCF mechanism is distributor finance,

where a focal firm's bank provides early payment to the focal firm on behalf of SME distributors (as a buyer). TSCF relationships involve a commitment by the focal firm through some form of risk-sharing arrangements with its bank (e.g. invoice approvals in RF or a buy-back guarantee in distributor finance), enabling the SME, in theory, to pay a lower interest rate that reflects the focal firm's typically superior creditworthiness over its own. These TSCF relationships can offer considerable economic advantages (Liebl et al., 2016; Kouvelis and Xu, 2021) to smaller supply chain members (Templar et al., 2016), yet suppliers have been reluctant to participate in RF (Wuttke et al., 2013a; Wuttke et al., 2019).

Apart from these two SCF mechanisms, we categorise all other mechanisms as DSCF, including invoice discounting and factoring, where SMEs receive financing against invoices; inventory finance, where SMEs receive financing against purchase orders. These DSCF relationships involve only the SME and their own banks, thus the interest rate is based solely on an SME's own creditworthiness. In other words, DSCF relationships lack access to the economic advantages that can potentially be gained through a more sophisticated relationship with the focal firm and its bank.

2.3 SCF Research on SMEs

Several recent studies have put an emphasis on the SME perspective of SCF. Lu et al. (2020) surveyed 218 Chinese SMEs and concluded that SMEs' innovation capability and market response capability positively affect SCF adoption and performance. Song et al. (2020) identified factors that help SMEs to overcome information asymmetry using multiple case studies, including their operational capabilities and level of network embeddedness. Ali et al. (2018) examined the relationship between SCF and performance and the moderating effect of trade digitalisation. The authors found SCF helps to improve performance while trade digitalisation helps to reinforce the relationship. de Goeij et al. (2016) studied the main barriers to the adoption of RF by suppliers in the logistics services sector, including 6 Dutch SME suppliers and one large supplier. The main barriers included a lack of knowledge, inter-firm and intra-firm collaboration, and inefficiencies in the invoicing and payment processes. Zhang et al. (2021) examined the effect of social interaction and information systems integration on the decision of FSPs to offer purchase order finance to SME suppliers. Meanwhile, the paper by de Goeij et al. (2021), which is the closest paper to our study, examined how TCE factors influence SME suppliers' decision to adopt RF. They found that only bounded rationality and opportunism may explain why SME suppliers accept or reject RF while asset specificity and frequency appear to play an insignificant role in SMEs' decision. In addition to studies focusing on SMEs, a few papers have incorporated SMEs into a broader study primarily focused on large firms. For example, Liebl et al. (2016) included 4 SME suppliers and banks in their study focused on four large original equipment manufacturers (OEMs).

In addition to empirical investigations, there are a few modelling papers focused on SMEs. Lekkakos and Serrano (2016) used a multi-stage dynamic programme to study the influence of RF

operational decisions and the performance of SME suppliers, finding that RF has the potential to unlock more than 10% of an SME's working capital and significantly improve its operational performance. Tanrisever et al. (2012) examined how RF affects operational and financial decisions, with their model showing that the value of RF depends on three market factors: the difference between the financing cost of the focal firm and the SME supplier, the working capital policy of the supplier, and the risk-free rate of return earned by the focal firm.

2.4 Service Triads and Triadic SCF

The above DSCF-TSCF distinction, which provides a new and meaningful way of categorising SCF mechanisms, is the result of abductively connecting the concepts that emerged from the collected data with existing literature on service triads (Timmermans and Tavory, 2012). Although a few prior SCF studies have mentioned triads, either explicitly (Martin and Hofmann, 2019) or implicitly (Liebl et al., 2016; de Goeij et al., 2021), authors have merely sought to highlight that there are three actors in RF. By contrast, we theorise our TSCF relationships as service triads involving the focal firm outsourcing financing for its suppliers or distributors.

Supply chain literature on manufacturing and service triads has predominantly focused on outsourcing products or services for the focal firm's customers and on the dynamics of the relationships between the three actors within a triad (Choi and Wu, 2009; Wynstra et al., 2015). The manufacturing triad usually comprises one buyer and two suppliers (Wu and Choi, 2005; Choi and Wu, 2009) while the service triad typically encompasses a buyer, a service supplier (typically of non-financial services, such as IT, logistics, consulting, etc) and the buyer's customer. The service supplier relies on input from the buyer's customer and thus on direct contact with the customer (Wynstra et al., 2015). This can lead to a decay of the buyer's bridging position, reducing their access to information and diminishing their ability to monitor the supplier's performance (Choi and Wu, 2009). In contrast, TSCF involves a financial service provider, i.e. the focal firm's bank, that has direct contact with the focal firm's suppliers or distributors, which implies an entanglement between the physical and financial supply chains when SMEs participate in such arrangements. In this case, the focal firm might actually know more about its supplier than it did before, arguably strengthening its bridging position. That is, by participating in TSCF, the focal firm has knowledge of SMEs' financing arrangements; and it might assume that, by participating in SCF, the SME has financial weaknesses, which could undermine confidence in the SME and damage the longevity of the relationship. This is an important potential spill-over effect, yet few studies have examined SCF from such a triadic perspective.

2.5 Transaction Cost Theorising

At present, there is no clearly dominant theory for studying the SCF adoption decision. Theorising in the SCF literature has been very diverse, with little consensus on relevant theoretical frameworks. While most studies use only one theory lens, if any, some have used two (Wuttke et al., 2013b; Song et al.,

2018; Carnovale et al., 2019), while Martin and Hofmann (2019) employed four theories. Agency theory, network theory, resource dependence theory and TCE have all been adopted in multiple papers, while Jia et al. (2020) concluded that resource dependence and agency theories are the most used in the SCF literature.

As theorising remains at a nascent stage of development, our study takes a grounded theory-based approach (Glaser and Strauss, 1967). There is some precedent for this, as grounded theory in some form was used by Wuttke et al. (2013b), Wuttke et al. (2013a), Caniato et al. (2016) and Liebl et al. (2016), although it was not always explicitly labelled as such. More specifically, our approach has been to assemble a grounded, theory-agnostic set of findings before systematically examining what TCE theory does and does not explain. TCE is not used to clarify any missing insights from grounded theory. Rather, examining the findings using TCE helps demonstrate that TCE, despite being useful, is limited in its explanation of the SCF adoption decision made by SMEs. We thus develop a proposed combined theory of the transactional and non-transactional influences on how SMEs understand and make decisions about SCF.

The rationale for choosing TCE is threefold. First, the basic justification for TSCF mechanisms like RF is based on transaction costs (the interest rate advantage). Second, transaction cost theorising is primarily concerned with assessing the governance structures mediating the exchange of goods and services (Williamson, 1981). Similarly, financial instruments are also 'instruments of governance', where firms need to make similar decisions to the more prevalent make-or-buy decisions (Williamson, 1991). And third, TCE is amongst the most used or advocated theories in SCF. In particular, it was adopted in two earlier empirical SCF studies that have similarities with ours: Wuttke et al. (2013b) and Martin and Hoffman (2019). The former made various observations about the transaction cost implications of electronic exchanges, cash flow uncertainties, and limitations on lot sizes, inter alia. The latter used transaction costs to explain the role of finance providers in facilitating information exchanges and the selection of such providers given the working capital tensions that exist between supply chain members. It is however instructive that both studies had to use additional theories alongside TCE to explain their findings. A similar observation on the need to supplement TCE with other theory frames can be made of the supply chain management literature in general, as TCE has been used variously in, for example, the analysis of outsourcing (Ellram et al., 2008), make-or-buy decisions (Cánez et al., 2000), sustainability (Carter and Rogers, 2008) and supply chain risk management (Blome and Schoenherr, 2011). In contrast, the more recent study by de Goeij et al. (2021) was able to stay loyal to TCE because its specific intention was to look for manifestations of it in practice.

3. Research Design

3.1 Overview of Method

Given the under-developed state of theorising in the literature, a grounded theory method (GTM) was adopted. The process was to construct the theory as originating in the collected data, rather than committing to a particular theory before data collection (Corbin and Strauss, 2015). A constructivist approach to grounded theory, drawing on Charmaz (2006), was followed to explore the participants' constructions of the subject that have shaped, and been shaped by, the way they finance their operations. GTMs have been recommended for the study of emerging supply chain topics (Mello and Flint, 2009; Flint et al., 2012), enabling phenomena involving complex social behaviour, such as buyer-supplier relationships (Kaufmann and Denk, 2011), to be studied. The approach is associated with two main strategies that help attain rigour: theoretical sampling and constant comparison (Suddaby, 2006; Charmaz and Belgrave, 2007).

3.2 Site Selection

Following Glaser and Strauss's (1967) concept of theoretical sampling, data were collected from two countries: the UK and Thailand. The UK was the initial and main site for the fieldwork, where SCF is an established concept; Thailand was later selected as a secondary site to explore SCF in a less mature context. That is, SCF has only recently been introduced in Thailand following the introduction of the Business Security Act, which came into effect in 2016 and enabled the use of invoices as security for finance. Therefore, although our focus is not on a cross-country comparison, the Thai context offered a significantly different institutional and cultural setting for studying actors' understandings. Moreover, some of the UK participants had suggested the need to study SCF in developing markets where SCF adoption differs from developed countries and, more importantly, to investigate SCF downstream with distributors since it was not available in the UK at the time of study.

3.3 The Sample

Following GTM and theoretical sampling principles, the fieldwork started by "going to the groups which [we] believe will maximize the possibilities of obtaining data ... on [our] question" (Glaser, 1978, p. 45). SME informants were primarily recruited through the first author's institution and via direct contacts, instead of through a large gatekeeper firm, for two key reasons. First, we intended to avoid bias due to power relations between large and small firms, i.e. there was a risk that an SME recommended by one of its large suppliers or buyers would not feel able to speak openly. Second, due to the sensitivity and confidentiality of the research topic, concerning finance, gaining the trust of the research informants was deemed essential.

A total of 56 informants were interviewed from 46 organisations, consisting of 29 informants from 27 SMEs (19 UK SMEs, UKS1-UKS19; 8 Thai SMEs, TS1-TS8), 22 bank managers from 14 major retail banks with responsibility for SCF (5 UK banks, UKB1-UKB5; 9 Thai banks, TB1-TB9), and five

subject experts based mainly in the UK (EP1-EP5). There are no known connections between the UK and Thai firms. The informants from the SMEs were predominantly owner-managers (with varying job titles), except in UKS4 and UKS9 where an Operations Director and Finance Director were interviewed, respectively, due to their specific involvement in a SCF arrangement. Meanwhile, in UKS5, it was possible to interview two further informants in addition to the owner-manager. The banks helped to validate and triangulate the information from the SMEs. Finally, the subject experts were included since they have specialist knowledge, were willing to share it, and were able to make observations that the researchers could not make (Gilchrist, 1992). Table I summarises the details of the informants and their organisations.

[Take in Table I]

3.4 Data Collection

Interviews were the basis for primary data collection in order to draw out informants' perceptions, interpretations and attitudes rather than recall data such as on costs and interest rates. The interviews were unstructured but based on a guide tested in three pilot interviews, with one SME, bank, and subject expert (a consultant and former practitioner). The guide was regularly revised to explore issues that emerged as being important to the informants' understandings; for example, the complexity of having to combine the use of different SCF arrangements for different customers. In general, informants were asked to characterise the setting in which they operated, the nature of their supply chains, and their main relationships. They were asked to focus more narrowly on issues of working capital, such as payment terms and problems of payment; and they were asked about the types of finance they use, their access to it, and the use of SCF specifically. Some SMEs were not users of SCF and had limited knowledge of specific mechanisms like reverse factoring, but they still offered interesting insights into how they would give it meaning. Bank informants were asked to describe their involvement with SCF, their clients and the services they provided, including the different SCF arrangements they offered. Subject experts were asked to describe their roles in relation to SMEs or SCF, to discuss enablers and inhibitors of SCF adoption, and to discuss how attractive they thought the more complex SCF practices were to SMEs.

Interviews were recorded and transcribed with the exception of two, at the interviewees' request. Field notes were also taken for initial analysis and to direct further data collection according to theoretical sampling principles. Interviews in Thailand were conducted in Thai, and only coded fragments were translated. The interviews lasted between 45 and 180 minutes, with an average of 90 minutes per interview, and took place between December 2018 and March 2020. They were generally conducted with single informants, but there were four joint interviews involving two informants each (at their request).

The field notes and interview transcripts were treated as the primary data, but given the focus on actors' construction of their understandings, documentation was also used to comprehend participants' meanings and references. Some of this was requested from participants (such as a flow chart indicating a bank's stated process for offering SCF), and some was obtained independently (such as company annual reports referring to working capital financing). Forty such documents were obtained.

3.5 Data Analysis

Data analysis followed a three-stage procedure. The first stage was 'open coding': reading the data, identifying informative fragments, and generating a series of categories that best characterised the data in the context of the research question. There was a process of constant comparison (Glaser, 2002) between data fragments and emerging categories, with the category structure being broadened to address new issues and deepened to help differentiate between the categories already established. We were not interested so much in the number of companies contributing to a category but in the range of issues and understandings. This process was led by the first author, and iteratively discussed and developed with the remainder of the team.

The second stage involved more definitive coding, leading to the category structure we report in Section 4, which includes four major categories: relationality, awareness, control, and context. This process was abductive in the sense of iterating between deduction and induction (Timmermans and Tavory, 2012; Reichertz, 2019), where the categories assumed more theoretical significance than they had in the open coding. For example, categories such as Context (Section 4.2.4) are significant not just because they capture, in a general way, an important part of the participants' constructions but also because they suggest relevant concepts, such as the notion of social embeddedness. Table II summarises the development of the conceptual categories for the four major categories from the preliminary categories. For example, one of the preliminary categories, single and multiple banking relationships, was connected to the final category of relational power because SMEs were compelled to use it by more powerful banks in SCF relationships. Relational power in turn folds into the major category of relationality along with relational trust, longevity, and transition.

[Take in Table II]

This second stage also produced what has been called a 'core category': a category that expresses, in analytical terms, what the researcher identifies as the participants' main concern. This core category was the idea of transitioning between dyadic and triadic inter-firm structures – based on a parallel with the literature on service triads (e.g. Li and Choi, 2009; Wynstra et al., 2015). Importantly, the emergence of this as a core category meant that triadic financing structures downstream of a corporate focal firm should be grouped with the upstream structures found in reverse factoring. The categories that sit below this core category (i.e. the four major categories) express the ways in which the participants deal with their 'main concern'. The iteration between data and conceptual categories ended when no additional

data were being collected to develop or add to previous categories, referred to as "theoretical saturation" (Glaser and Strauss, 1967) or "categories saturation" (Strauss and Corbin, 1998).

The third and final stage was to introduce a grand theory, TCE, and to analyse which parts of the category structure, and by implication which elements of the data, aligned with TCE (and which did not). This formed the basis of further theorising and elaboration, leading to three propositions and an overarching conceptual model. Such an approach, of combining grounded theorising with established theoretical frameworks, was advocated by Birks et al. (2009).

4. Findings

In this section we describe the core category arising from informants' main concern, and follow this with the four major categories expressing how informants deal with this main concern.

4.1 Constructing Understandings of SCF: The Dyadic-Triadic Distinction

The core category, which is the category with the "greatest explanatory relevance and highest potential for linking all of the other categories together" (Corbin and Strauss, 2008, p. 103), addresses the first part of our research question concerned with how SMEs construct their understandings of the adoption of SCF. Our analysis revealed that the central element in our informants' understandings is the distinction between arrangements that are dyadic in nature and those that are triadic. Dyadic arrangements involve SMEs having a bilateral relationship with the FSP and a bilateral relationship with the focal firm. The flow of goods and services is separated from the financing arrangement. Triadic arrangements involve SMEs participating in a trilateral arrangement with a focal firm and its FSP together. The three parties become intertwined, and the flow of goods and services becomes entangled with the financing arrangement. In a dyadic arrangement, like invoice discounting, an SME is the FSP's client, and this relationship is contractually independent of that with any supply chain customers. In a triadic arrangement, like RF, a supplier receives finance from its supply chain customer's bank, not its own, at an interest rate that should reflect the customer's creditworthiness. While in dyadic arrangements the essential structure is a set of dyadic relationships, in triadic ones the minimal logical unit is the triad. This is not only true of arrangements like RF that extend upstream from the focal firm; it is also true of arrangements like distributor finance that extend downstream. The coupling of the physical and financial supply chains that is inherent to TSCF has a particular and often problematic significance in our participants' understandings, as we show in the remainder of this section.

4.2 SCF Adoption by SMEs: The Four Major Categories

The following four major categories — relationality, awareness, control, and context — which, according to Glaser (1978, p. 95), are conceptual categories that "seem to have explanatory power" address the second part of the research question concerning how SMEs make decisions about the adoption of SCF.

These major categories, as summarised in Table III together with sub-categories and example evidence from the interviews, reveal how the informants deal with the core category.

[Take in Table III]

4.2.1 Relationality

The first major category is 'relationality', indicating how central relationships were to the participants. Relationality involves four concerns of: relational power, relational trust, relational longevity, and relational transition (see Table III for examples). The most important difference in a relational sense between dyadic and triadic forms of financing is that, in the former, the SME is the finance provider's customer, whereas in the latter it is the SME's customer that is the finance provider's customer. As a result of the latter, the SME has less authority and influence to negotiate, extend or otherwise modify the finance terms.

The first sub-category, 'relational power', was particularly implicated in triadic financing. Schemes like RF supposedly mitigated power imbalances by ensuring less powerful suppliers are financed when customers fail to pay their invoices. Yet, as is widely known, triadic financing is associated with powerful firms imposing even longer payment terms. In the Thai setting, FSPs appeared to have less power because of the competitiveness of their industry, which led to them typically needing to sell new forms of finance, and therefore sometimes being the initiator of a TSCF scheme. The second subcategory, 'relational trust', is particularly informed by experiences of DSCF. The direct dyadic relationship between a firm and its finance provider was based on trust, which is lost in a triadic arrangement that is anchored by another firm and involves their bank. The third sub-category is 'relational longevity'. Dyadic arrangements were clearly associated with longer-term relationships with a finance provider that typically started as a one- or two-year renewable contract but ended up being a long-term relationship. In a triadic arrangement, there may be no history with the bank itself; rather, the arrangement is reliant on a long-term traditional supply chain relationship. The fourth sub-category, 'relational transition', reflects the point that adopting one financing mechanism typically meant relinquishing another and, when making a transition from dyadic to triadic financing, involved changing a relationship – unpicking an existing relationship and creating a new one.

Overall, the 'relationality' category indicates the significance of inter-firm relationships to the informants' constructions of financing arrangements, but it is also a reminder of the fact that firms have existing relationships and historical arrangements that they may have to give up or augment when adopting SCF. The rationality of adopting a particular financing scheme, like RF, depends on what kind of financing has to be abandoned in order to adopt it, and on how this shift will affect relationships in both the physical and financial supply chains. For example, one informant's firm adopted RF by partially giving up factoring (UKS2), and this had less of an impact on the firm's relationships than it did on another informant's firm that adopted RF by partially giving up invoice discounting (UKS5).

4.2.2 Awareness

The second major category of 'awareness' points to the significance of how, and how far, firms become aware of possible financing mechanisms and their pre- and post-conditions (see Table III for examples). But the data shows how this awareness is not just a matter of having a technical awareness of the mechanisms, or an objective awareness of circumstances. Its first sub-category is 'awareness as promotion', which is concerned with the partial, potentially biased nature of information about financing – as the source of information for the SMEs was typically the focal firm, so a principal supply chain partner. Generally, this was a concern about triadic arrangements, particularly RF. A second sub-category of 'impediments to awareness' concerned some fairly straightforward observations about why information about financing schemes simply did not get through to SMEs or individuals within firms. For example, divisionalisation in a bank, which led to corporate banking divisions knowing more about triadic financing than SME divisions, might mean an SME is not made aware of RF.

A third sub-category of 'awareness as signalling' included the observation that SMEs could interpret a focal firm's offer of TSCF as suspicious. And when the focal firm extended their payment terms as a quid pro quo for offering RF, this reinforced the signal that they were acting out of self-interest. There were also concerns about how an SME's financial health might be perceived by the focal firm if it was known to be reliant on SCF. That is, by participating in a triadic arrangement, the focal firm has knowledge of its partner's financing arrangements and might conclude it is financially insecure, undermining confidence in the partner and damaging the future of the relationship. The final subcategory is 'awareness in terms of transparency', which is a significant aspect of SCF that differentiates even simple schemes like an overdraft from, for instance, invoice discounting. In one case (UKS6), a logistics service provider was also a firm's factor, providing back-office services such as order processing and payment collection. Hence, the firm's status was more transparent to it than it would have been to a bank. In triadic schemes, transparency comes from the need for the customer's approval of invoices before funds are provided by its bank. But triadic schemes can also involve individual, often opaque negotiations about rates and fees.

The issue of awareness generally is one that has been raised in the SCF adoption literature, but typically as a straightforward matter of access to objective knowledge about financing mechanisms and practices. In our study, awareness is just as much a matter of knowledge about other actors. And it was not simply about actors wanting to be more aware – it was also about actors wanting other actors to be less aware, in certain respects. Thus, like the relationality category, this emphasises the social complexities that matter to firms in their financing arrangements.

4.2.3 Control

The third major category of 'control' was central to some informants' aversion to any external financing of the working capital gap (see Table III for examples). There were four sub-categories: control for

manipulation, control of complexity, control by flexibility, and control of confidentiality. The first subcategory, 'control for manipulation', was a clear concern about participating in triadic schemes as suppliers felt manipulated into accepting extended payment terms. It is because triadic schemes couple financial and physical supply chains that such pressure and manipulation into accepting extended payment terms becomes possible. The second sub-category, 'control of complexity', was essentially about how well a firm's level of sophistication matched the perceived complexity of a SCF scheme. Triadic schemes are often promoted as being to the particular advantage of small supply chain partners who find it particularly hard to manage the working capital gap, not least because their payment terms come under pressure from more powerful partners. Yet they are the least likely to have the level of sophistication to match the complexity of triadic schemes. And it may be that triadic finance is only offered by the anchor party to its most important suppliers — which might be the medium-sized firms, not the smallest. A further aspect of complexity, again a logical consequence of triadic and not dyadic financing, is that a supplier may have to deal with a different system for every customer offering reverse factoring and, at the very least, have to combine a customer's RF with dyadic financing for other working capital requirements.

The third sub-category was 'control by flexibility'. Dyadic financing typically offers the recipient a choice of how much to draw down, almost instantaneously and without the need for a supply chain partner's approval. This is in contrast to triadic schemes where approval is needed. Dyadic financing also allows the recipient to increase the size of the facility, which again is not possible in a triadic scheme in which the size of the facility is determined by the focal firm and its bank. The final sub-category, 'control of confidentiality', has a clear connection with perception and the signalling sub-category of awareness, but it appears separately here because informants see confidentiality generally as an issue of control. In triadic arrangements, by definition, a firm's financing cannot be confidential from the focal firm. As indicated earlier, the confidentiality loss is also true of factoring (which we have defined as being dyadic). So, the point is that participation in triadic schemes rules out confidentiality whereas it is potentially a choice when considering alternative dyadic schemes.

4.2.4 Context

The final major category of 'context' classified informants' meanings in terms of their contextual embeddedness – the nature of business as context, regionality as context, and legality and legitimacy as context (see Table III for examples). 'Nature of business' grouped various observations about how certain sectors were better suited to triadic financing than others. Strongly seasonal businesses, for example, although presumably having especially problematic gaps in working capital, were nonetheless also unsuited to financing invoices. The second sub-category of regionality was most obvious in the contrast between UK and Thai practice in triadic schemes. In Thailand, the perception was that the banking industry was more competitive, and so Thai banks were offering RF at greater risk to themselves by obtaining information about a focal firm's suppliers but without requiring the focal firm

to provide a credit guarantee. RF in Thailand had a relatively low uptake in comparison with distributor finance, but again the focal firm in the latter (typically a major manufacturer offering finance to its distributors) did not usually underwrite the financing. Instead, it provided information on the distributors – especially their payment records. Another aspect of regionality was the perception that a late payment culture in the UK had contributed to the need for SCF. In theory, mechanisms like RF solve this problem by making late-payers (the buying, focal firm) underwrite the financing to their suppliers; but, as described earlier, informants perceived that the *quid pro quo* for this was an extension in payment terms.

The third sub-category of context was about legality and legitimacy. This was bound up with regionality, but it has been identified as a distinct sub-category here because it is not necessarily a regional issue. A key aspect to emerge from the extension of the study from the UK to Thailand was the significance of the legality of SCF that is secured on invoices. In Thailand, a recent law change had made various forms of SCF legal. Prior to this, only immovable assets – land and buildings – could be used as security. Legitimacy was also implicated in the accounting treatment of triadic schemes, in particular. RF is not regarded as a loan to the focal firm as its supplier is the recipient of the funds; however, the funds do finance the accounts payable of the focal firm, and the focal firm underwrites the funding. Yet it does not appear on the focal firm's accounts as debt. As with any findings on contextual embeddedness, it is quite likely that, in a further study, more aspects of context would emerge as being relevant. The important point is that context matters, and that, to the informants, it is not dismissed as being merely 'context' but instead it can be central to their decisions.

Overall, this analysis has shown how:

- 1. Informants' main concern centred on a basic distinction between financing from a source that regards the actor as its customer (termed 'dyadic') and a source that regards the actor's supply chain partner as its customer (termed 'triadic'); and,
- 2. Actors dealt with this main concern through considerations of relationality, awareness, control, and context.

5. Discussion

Following a grounded theory-informed approach in which no theoretical framework is employed before data collection (Glaser and Strauss, 1967; Corbin and Strauss, 2015), we conducted grounded theorising from the data leading to: (i) the core category, i.e. the DSCF-TSCF distinction that explains the way SMEs construct their understandings of SCF; and, (ii) the four major categories that explain how SMEs make decisions about SCF. We begin by discussing the core category (Section 5.1) before using TCE to examine our findings (Section 5.2). TCE proves useful but provides limited coverage of the findings, leading to a supplementary non-transactional interpretation of the findings that TCE cannot explain (Section 5.3). One proposition is developed in each subsection.

5.1 The Dyadic-Triadic Distinction

The central concern of the informants was the distinction between dyadic and triadic forms of SCF, and less or more coupling between the physical and financial supply chains. There are certain benefits to more coupling in arrangements like RF and distributor finance, but this also creates problems of managing relationships, obtaining and impeding awareness, retaining control, and acting in contextually appropriate ways. At this point it becomes important to talk about 'entangling', not just coupling – where a firm cannot transact with its finance provider in a way that is independent of its transactions with major customers or suppliers. This helps to explain prior findings on the reluctance of suppliers to accept offers of RF (e.g. Wuttke et al., 2013a; Wuttke et al., 2019) and on the failure of all parties to gain benefits from such arrangements (Hofmann and Zumsteg, 2015; Martin and Hofmann, 2019).

Moreover, the triadic distinction is significant as it provides a particular way of classifying SCF mechanisms. Prior studies have classified mechanisms in various ways, such as according to whether they are pre- or post-shipment (More and Basu, 2013; Wuttke et al., 2013b), the kind of security they are based upon (Chakuu et al., 2019), and who provides or initiates the financing scheme (Babich and Kouvelis, 2018). But the important point about entangling as a basis for classification is that it deals with the degrees of freedom available to a supply chain actor – particularly a non-focal firm. Since our study has focused on SMEs it has concentrated on the large population of firms that have limited technical capacities for dealing with working capital finance, that are likely to take a less calculated approach to decision-making, and that are more likely to have a control imperative in their choices. As a result, maintaining degrees of freedom becomes a central consideration to SMEs. Based on our analysis, we state our first proposition:

Proposition 1. Small and medium sized supply chain members construct their understandings of supply chain finance by distinguishing between dyadic and triadic relationships. In particular, triadic supply chain finance can create an entanglement between the physical and financial elements of supply chains that proves problematic to many SMEs.

The following two subsections unpack how TCE and non-TCE considerations affect SMEs' decisions to adopt SCF, as summarised in Table IV, leading to our overall conceptual model of how SMEs understand and make decisions about SCF adoption.

[Take in Table IV]

5.2 Transactional Considerations

Here, we systematically examine the findings using all five key concepts of TCE — bounded rationality, opportunism, information impactedness, frequency and asset specificity (Williamson, 1973; 1975; 1979; 1981). *Bounded rationality* was clear in several categories described in Section 4. Relational trust,

for example, was relied on because actors had bounded knowledge about other actors' intentions, and so they favoured dyadic over triadic schemes. Awareness as promotion meant knowledge of practices was gained from other actors selling such arrangements, and so it was inherently bounded by potential bias. Control of complexity became an imperative for SMEs, in particular, whose capacity to deal with complex financial arrangements was strictly bounded. Similarly, *opportunism* was implicated in various findings. For example, control as manipulation was an issue for suppliers who found that corporate customers used the offer of RF as an opportunity to demand even longer payment terms, and that the offer came with the implication that they should accept it if they wanted to continue being a supplier. In addition, some informants referred to being offered finance late in price negotiations, when the supplier could no longer incorporate the associated cost in its price, and this was seen as being opportunistic.

Meanwhile, *information impactedness* was implicated in concerns amongst SMEs, both that they knew less than their focal firms, and that their focal firms should know less about them. Thus, for example, the awareness-as-signalling category referred to concerns that suppliers would be signalling their financial weakness by accepting offers of triadic finance. The concerns about legitimacy in the 'context' category also reflected the information impactedness that arises when the accounting function's treatment of triadic finance provides a route to off-balance-sheet financing. Similarly, both *frequency* and *asset specificity* were represented in the findings, although limitations of space preclude a complete description of the analysis. Asset specificity was a particular issue for triadic schemes. In this case, the sub-category of control-of-complexity was again implicated, because it included observations about the specificity of the technical platforms typically used for schemes like RF. Furthermore, because it is initiated by the focal firm, RF can require a supplier to operate different schemes and different technical platforms for each customer that offers it this form of financing.

de Goeij et al. (2021) found that bounded rationality and opportunism may explain why there has been a low uptake of RF by SMEs despite its apparent financial attractiveness. In this sense, our findings are aligned with the aforementioned authors. However, de Goeij et al. (2021) also suggested that asset specificity and frequency are not influential factors in the decision making of SMEs, whereas we have found that both of these TCE factors help, to some degree, to explain an SME's decision. As above, asset specificity was particularly relevant in the context of TSCF, and our approach to categorising SCF schemes according to their dyadic or triadic nature may have helped to reveal the importance of this factor. Meanwhile, de Goeij et al. (2021) only considered four TCE factors and examined RF only. In contrast, we have incorporated the fifth factor of information impactedness, which also influences SMEs' decisions, and covered both upstream and downstream SCF mechanisms. But, as we will discuss next, there are important non-transactional, relational influences on the SCF adoption decisions of SMEs. Based on our analysis, we state our second proposition:

Proposition 2. The decision taken by an SME concerning whether to participate in a SCF arrangement is only partially influenced by transactional considerations regarding bounded rationality, frequency, opportunism, asset specificity, and information impactedness.

5.3 Non-transactional Considerations

The previous subsection demonstrated the utility of TCE for aiding our understanding of SCF, but there are also several important categories in the analysis that lay beyond transaction cost theorising. Indeed, there is a longstanding literature on the limitations of TCE, including its under-socialised analysis of human action (Granovetter, 1985) and its over-socialised analysis of institutional forces that ignores individual creativity (North, 1986). The main findings from our analysis that fall outside TCE indicate that SMEs made decisions on the basis of not only economics (TCE), but also relationality (non-TCE). We organise these non-TCE explanations under the headings of 'relationality matters', 'control imperative', 'contextual embeddedness', and 'signalling concerns'. Although these headings are similar to our four major categories, they are not identical as the main categories consist of both TCE and non-TCE explanations.

First, relationality matters fundamentally in our data, and essentially it defined the core category. Some forms of SCF (the dyadic ones, like invoice discounting) preserve an independence between financial and traditional supply chain relationships that other forms of SCF (the triadic ones, like RF) entangle. In the data, this was reflected in concern that, on the one hand, the transition from dyadic to triadic schemes would damage existing relationships with finance providers but, on the other hand, that it might be needed to maintain relationships with supply chain customers. Second, control imperative arose in its own right, not simply as a derived concern from considerations of uncertainty. Subcategories such as control for manipulation, control of complexity, control by flexibility and control of confidentiality expressed informants' concerns about maintaining degrees of freedom. Third, contextual embeddedness was important as any financial arrangement is essentially embedded in a context of industrial practice, regional differences and legitimacy concerns. This pointed to a series of factors in informants' understandings that mattered to them for reasons other than how they affected transaction costs. This context involved three levels: formal and informal institutions (e.g. culture and law); the specific industry involved; and a particular firm or individual, especially when informants were ownermanagers. Finally, signalling concerns emerged as an important consideration, particularly the problem of inadvertently signalling financial weakness by accessing SCF. This is an aspect of awareness that tends not be dealt with in the literature, which, consistent with TCE's concern for bounded rationality, instead concentrates on awareness and knowledge (More and Basu, 2013).

It is clear from the above that the SCF adoption decision is only partly transactional. Important aspects, such as the maintenance of relationships and the need to manage signalling within these relationships (e.g. signalling of financial weakness), the imperative to maintain control and preserve

degrees of freedom, and the need to respect aspects of contextual embeddedness, all go beyond the explanatory reach of TCE. Based on our analysis, we state our third proposition:

Proposition 3. The decision taken by an SME concerning whether to participate in a SCF arrangement is influenced by non-transactional considerations regarding relationality matters, control imperative, contextual embeddedness, and signalling concerns. This applies to all SCF schemes but is particularly important in the context of TSCF.

Figure 1 depicts our proposed overarching model of how SMEs understand and make decisions about adopting SCF. Although we argue that SMEs appear less concerned with the economic advantages (transaction costs) of SCF and more concerned with the relational consequences or nontransactional costs of participation, we incorporate both the TCE and non-TCE concerns in our model. A decision about participating in RF might, for example, be based on a focal firm's opportunism, which would fall within TCE; but it might also be based on the need to manage new and existing relationships. The model illustrates that a decision to move from a dyadic SCF scheme (left of the figure), in which each supply chain member has its own finance provider and maintains independent relationships, to a triadic scheme in which both the supplier and the distributor receive finance from a specific focal firm's bank (right of the figure) and where the financial relationships are entangled with the supply chain relationships, is subject to partly transactional and primarily non-transactional considerations. The solid arrows on the left and right indicate the flow of finance; and the dashed lines indicate physical and other relationships. This highlights that: (1) adopting a TSCF arrangement has to involve a process of transitioning out of a DSCF arrangement; (2) this process involves an 'entangling' of relationships, whether upstream or downstream, which appears to be the main cost (concern) of the decision making for SMEs; and, (3) this process is moderated by a set of considerations that are both transactional and non-transactional.

[Take in Figure 1]

6. Conclusions

This study has investigated actors' understandings of SCF with a particular focus on SMEs, which tend to be the firms that are at most risk when working capital dries up and are supposed to be the main beneficiaries of SCF schemes. Our main conclusion, derived from the 'core category' that emerged from our grounded analysis of informant interviews, is that actors' understandings of SCF involves a distinction between essentially dyadic and essentially triadic practices. In the former, SMEs receive finance from a provider that regards them as its client whereas, in the latter, the finance comes from a provider that considers the focal firm to be its client. The significant implication in the latter SCF relationships, which we refer to as TSCF, is that the financial and physical supply chains become entangled – SMEs cannot independently manage their financial and supply chain relationships, and this

tight coupling is regarded as problematic. However, the fact that it is problematic does not mean SMEs will invariably prefer dyadic over triadic schemes, but it does create a number of challenges that have to be managed or at least weighed in the balance against any benefits.

We also conclude that this core category or main concern is dealt with through the four major categories of relationality, awareness, control, and context. At a detailed level, there is overlap between these categories and TCE theory, as demonstrated through our discussion of five constructs from TCE; but there is also a set of concerns that go beyond the costs of contracting – notably the maintenance of relational longevity, the imperative to retain control, the importance of adaptation to context, and concerns over signalling weakness.

6.1 Research Implications

The contributions of this study are that:

- 1. It reveals how SMEs understand the nature and consequences of SCF practices. This helps to elaborate on why suppliers (Wuttke et al., 2013a; Wuttke et al., 2019) but also distributors are reluctant to participate in triadic financing arrangements despite the favourable view that is generally given of schemes like RF in the literature (e.g. Lekakos and Serrano, 2016; Grüter and Wuttke, 2017). This includes, for instance, how participation affects existing relationships and how signalling in these relationships might become problematic.
- 2. It provides a novel way of categorising SCF practices as dyadic or triadic. This differs from the extant literature, which has based its categorisations on finance timing, source, or collateralisation (e.g. More and Basu, 2013; Wuttke et al., 2013b; Templar et al., 2016; Chakuu et al., 2019; Martin and Hofmann, 2019). Our alternative approach shows how certain upstream finance practices (RF) are analogous to certain downstream practices (distributor finance) because they involve a similar kind of entangling that matters to the actors. More broadly, we extend supply chain management literature on service triads (Wynstra et al., 2015) to include financing services provided by focal firms through their banks to both suppliers and distributors. The entanglement of physical and financial supply chains has a negative spill-over effect on the decisions taken by SMEs to participate in TSCF relationships. Our proposed categorisation provides new insight by examining service triads involving financing services, complementing the rich body of literature on outsourced logistics, consultancy services, etc. In particular, the spill-over effect due to the increased complexity of TSCF, resulting in fear of signalling vulnerability, may impede TSCF adoption by SMEs.
- 3. It demonstrates that transaction cost theorising, despite providing a useful lens, is limited in its ability to explain actors' understandings of SCF. This continues a short line of recent work that bolts TCE together with various other theories to deal with empirical data (e.g. Wuttke et al., 2013b; Martin and Hofmann, 2019), and a still more recent study by de Goeij et al. (2021) that restricted itself to observations that can be explained by TCE. Our approach is an attempt to systematically

show the limits of a transactional, cost-centred explanation – not so much its inability to provide a normative theory of technically optimal SCF, but rather its inability to express the breadth and subtlety of how actors actually deal with SCF. While de Goeij et al. (2021) focused on SME suppliers and how TCE influences their decision to adopt RF, we have expanded the SCF literature on SMEs by examining both SME suppliers and distributors, demonstrating that both TCE and non-TCE factors can influence their decision to participate.

4. It addresses gaps identified by Gelsomino et al. (2016), including: (i) the need for more empirically-based holistic research on SCF applications, through our study of both upstream and downstream SCF; and, (ii) the need for a general theory of SCF, through our use of a grounded theory approach, leading to the development of three propositions grounded in the collected data.

6.2 Practical Implications

Corporate (focal) firms wanting their suppliers or distributors to participate in TSCF schemes like RF or distributor finance should recognise the significance to their SME partners of relationality, awareness, control, and context. They should also recognise that, in transitioning to such schemes, the unwinding of existing DSCF arrangements may be problematic for supply chain partners. For SMEs, particularly when being offered RF or distributor finance, our category structure offers an *aide memoire* model supporting managerial decisions in participating in TSCF, and this represents a third response to the future research calls made by Gelsomino et al. (2016). It was apparent from the interviews that such firms attempt to take a broad view of these SCF mechanisms, and do not confine themselves to a calculative approach focussed on transaction costs. It is therefore quite likely that they would benefit from having a systematic approach to thinking through the issues, and our category structure enables this by effectively synthesising the insights and observations garnered from a range of informants.

6.3 Limitations

This study has concentrated on a relatively small number of industries and on two country contexts only, meaning we need to be careful about generalisation – particularly as the findings indicate the contextual embeddedness of SCF understandings. A qualitative analysis such as this, based on theoretical sampling, means that any generalisation comes from the content of the findings rather than statistical representativeness. And a method of data collection based on conversing with informants relies heavily on informants' openness and ability to articulate their observations, as well as the interviewers' ability to prompt such observations. Yet the study offers a view of how the actors themselves construct the opportunities and problems of SCF, and helps to show how issues such as relationality and control are as important to a supply chain's use of finance as strictly financial factors such as cost and cost uncertainty.

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Tables and Figure

Table I. Characteristics of the informants and their organisations

Type	Country Context	Firm Size	Firm Details	Informant Details	No. Firms	No. Informants
		Micro	UKS1: Educational service provider	1 Managing Director		
		Small	UKS2: Manufacturer (Food)	1 Director		
		Small	UKS3: Manufacturer (Building materials)	1 Founder and Finance Director		
		Medium	UKS4: Manufacturer (Navigation products)	1 Operations Director		
		Small*	UKS5: Recruitment service	1 Chairman (UKS5-1) 1 Operations Director (UKS5-2) 1 Finance Manager (UKS5-3)		
		Micro	UKS6: Manufacturer (Bottled drinks)	1 Founder	1	
		Small	UKS7: Manufacturer (Food)	1 Director		
		Small	UKS8: Manufacturer (Sports goods)	1 Managing Director	1	
	UK	Medium	UKS9: Manufacturer (Personal care products)	1 Finance Director	19	21
		Small	UKS10: Financial service provider	1 Managing Director		
		Small	UKS11: Wholesale (Construction supplies)	1 CEO		
		Small	UKS12: Manufacturer (Paper)	1 CEO		
SME		Micro	UKS13: Social enterprise (Community support activities)	1 Director		
		Small	UKS14: Services (Professional)	1 Managing Director		
		Small	UKS15: Services (Hospitality)	1 CEO		
		Small	UKS16: Services (Professional)	1 Director		
		Micro	UKS17: Services (IT)	1 Managing Director		
		Small	UKS18: Services (Construction consultancy)	1 Director		
		Small	UKS19: Services (Construction consultancy)	1 Senior Partner		
		Small	TS1: Wholesale (Medical supplies)	1 Managing Director		
		Small	TS2: Wholesale (General goods)	1 Founder		
		Medium	TS3: Manufacturer (Personal care products)	1 Director		
	Thailand	Small	TS4: Service (Petrol station)	1 Director	8	8
	Thanana	Small	TS5: Construction	1 Director		O
		Small	TS6: Services (Printing house)	1 Founder		
		Small	TS7: Wholesale (General goods)	1 Founder		
		Medium	TS8: Wholesale (Construction supplies)	1 Managing Director		
	T	T _	[·	Total (SMEs)	27	29
		Large	UKB1: UK Bank	1 SME Division Manager (UKB1-1)	5	6

				1 Corporate Division Manager (UKB1-2)					
		Medium	UKB2: UK Bank	1 Manager (No Divisions)					
	UK	Large	UKB3: UK Bank	1 Corporate Division Manager					
		Medium	UKB4: UK Bank	1 Manager (No Divisions)					
		Small	UKB5: UK Bank	1 Manager (No Divisions)					
		Large	TB1: Thai Bank	1 SME Division Manager (TB1-1) 1 Corporate Division Manager (TB1-2) (Joint interview)					
		Large	TB2: Thai Bank	1 Corporate Division Manager		16			
Bank		Large	TB3: Thai Bank	2 Corporate Division Managers (Joint interview)					
		Large	TB4: Thai Bank	2 SME Division Managers					
	Thailand	Large	TB5: Thai Bank	2 Managers (No Divisions) (Joint interview)	9				
	Thanand	Large		2 SME Divisions (Joint interview)					
				1 Corporate Division					
			Large	Large TB7: Thai Bank 1 SME Division	1 SME Division				
		Large	Large	Large Ti	Lorgo	Large TB8: Thai Bank 1 SME Division			
					1 Corporate Division				
		Large	TB9: Thai Bank	1 SME Division Manager					
				Total (Banks)	14	22			
			n/a	UKE1: UK SCF Expert	1 UK Supply Chain Finance Consultant				
Cultinat		n/a	UKE2: UK SCF Expert	1 UK Public procurement officer					
Subject	UK	n/a	UKE3: UK SCF Expert	1 UK Public procurement officer	5	5			
Expert		n/a	UKE4: UK SCF Expert	1 UK SME Association manager					
		n/a	UKE5: Global SCF Expert	1 International Financial Institution Official					
				Total (Subject Experts)	5	5			
				Grand Total (SMEs, Banks, and Subject Experts)	46	56			

^{*} Small in terms of the number of staff but can be categorised as medium-sized firm in terms of turnover.

Table II. The development of conceptual categories: Preliminary, final and the four major categories

Preliminary category	Final category	Major category	
Single and multiple banking relationships	Relational power		
Bargaining power	Relational power		
As a trusted advisor vs. distrusted advisor			
Collaborating with suppliers	Relational trust		
Retaining control over payment collections			
Long-term financing relationships			
Long-term supply chain relationships			
Contractual lock-in	Relational longevity	Relationality	
As a pre-condition			
Maintaining relationships			
Damaging existing relationships			
Increase in financing costs of existing relationships			
New finance offer, not always cheaper	Relational transition		
Resulting in terminating a relationship			
Having to use different financing schemes concurrently			
Promotion to raise awareness	Awareness as promotion		
Not being widely publicised	Awareness as promotion		
Divisionalisation	Impediments to awareness		
Certain schemes are non-ubiquitous			
Deceptive signalling	Awareness as signalling	Awareness	
Vulnerability signalling	Awareness as signaming	1	
Providing a nice, clear audit trail			
Transparency through collaboration	Awareness in terms of transparency		
Fees discrimination and excessive fees			
In exchange for prolonged payment extensions			
Pressured to participate	Control for manipulation		
Offering later (after price negotiation)			
Level of sophistication	Control of complexity	Control	
Lack of standardisation	Control of complexity	Control	
Authority and availability			
Size of SCF facility	Control by flexibility		
Discounting options			

Commitment		
Two separate agreements		
Disclosure of financing used	Control of confidentiality	
Size and age of establishment	Noting of hyginage	
Industrial sector	Nature of business	
Competitiveness		
One bank only	Regionality	Context
Culture of late payment	Regionanty	Context
Government initiatives		
Accounting treatments	Legality and legitimacy	
Off-balance sheet financing	Legality and legitimacy	

Table III. The concerns of informants in relation to SCF adoption

Major Concern	Concerns in Relation to the Major Concern	Illustrative Quotes (Examples)		
	Relational power	UKS6: 'it's mostly these big retailers, it's not really a negotiation, it's like these are our payment terms: accept it or we don't work with you. So, we don't really have much of a say in this.'		
	-	UKS11: 'the banks will not negotiate with you, in fact the banks dictate to you what they will give you as charges.'		
	(About power in relationships)	TB2: 'Since our products are similar, we mainly compete on the basis of interest and services. The [anchor firms] have bargaining power. For example, [an anchor firm] uses more than one bank concurrently based on price. They want to give options to their dealers to choose which banks to use to make transactions.'		
		UKS9: 'the banking relationship is like a marriage you have to work together and you have to help each other If you don't have an honest and open relationship with your bank, they will be nervous, and they won't help you Your bank has to trust you to tell them bad news as well as good news so that they have an opportunity to access facts.'		
	Relational trust	UKB3: 'The risk is always, yeah so we're heavily reliant on the customer to collect those debts. So, when we look at invoice finance or		
Relationality	(About trust in relationships)	factoring, we're always looking at the collectability of those debts. So, invoices raised, are there any contractual issues that might mean the debtor refuses to pay? So, there's more an element of trust in the customer's systems and abilities in an invoice finance line than necessarily factoring line, because the institution itself is collecting those debts and invoices.'		
(About		UKS17: 'I wouldn't trust them. I wouldn't go to a bank to borrow money that was secured against anything.'		
relationships between SCF		UKS16: 'because we'd worked with [Bank] for so many years, and they know our clients inside-out, they would allow us to present our numbers say on the 20th instead of the 28th or 31st'		
actors)	Relational longevity (About the length and history of relationships)	UKS4: 'I don't know if that would have happened if it had been a new supplier. Its only because we worked with them for a long time, explained what the situation was and then told them what we wanted to do, would they do it and in the future, there'd be more orders for them.'		
		UKS1: 'It seems to me it would have to be with a company where I knew that I was going to be having a long-term relationship and where, well where both parties, where they and my company could see that we were in this for the long term.'		
		UKS5-1: 'our bank didn't like it because they're having some business taken off them. £6 million worth of business they were losing one of [their] favourite ways of lending money is on the back of the sales ledger you've actually got'		
	Relational transition	UKS2: 'Yeah, so we basically have two schemes, one is just simple invoice discounting'		
	(About transition in relationships)	UKS11: 'The problem in using a supply chain payment system is that we have to liaise with the third party's bank, we have no relationship with that bank and the client needs to actually give that bank authority to liaise with us.'		
		UKS8: 'It costs us money, but to run an overdraft is cheaper than giving an additional 2% to a customer on a large order. So, if we did that for all the customers it would be a lot more expensive.'		
Awareness	Awareness as promotion	UKS5-2: 'they [the buyer] initially produced some sort of marketing material telling us what it was and why they were doing it [reverse factoring] they did a PowerPoint presentation and then they actually came to our offices in the end and did another presentation to show us'		

Major Concern	Concerns in Relation to the Major Concern	Illustrative Quotes (Examples)		
(About knowledge or understanding	(About gaining awareness through the anchor party's or bank's promotion of SCF	TB3: 'We actively approach [anchor firms] to educate and convince them to adopt supplier financing [reverse factoring] or buyer financing [distributor finance] [Triadic SCF arrangements] cannot happen without the sponsors [anchor firms] understanding how the arrangements can benefit them.'		
about SCF among the actors)	offerings)	UKB1-2: 'Most of the time they've [SMEs] never heard of it, so they're not aware of it as wellSo yeah, I always used to talk to customers [distributors] about, around it because you know it's a solution there that I don't think many of them are aware of at all. It's not really widely publicised is it?'		
uciors)	Impediments to awareness (About factors that	UKB2: 'I've not come across supply chain finance particularly myself. I am aware that we do it, but it is mainly at a corporate levelwe don't tend to deal with it in the commercial remit.'		
	undermine, inhibit or	UKS10: 'not all banks work with supply chain finance, so that could be a limiting factor.'		
	obstruct the SCF awareness)	UKB1-1: 'I think there are probably other options [than reverse factoring] that we might be able to help with on an individual company basis rather than going via the buyer.'		
	Awareness as signalling (About raising awareness in terms of sending different signals to different SCF actors)	UKS5-2: 'So it [reverse factoring] was done at the same time as extending payment terms obviously it was done at the time to improve the cash reserves of the clients But obviously it wasn't sold like that. It was sold to say you can draw down the money straight away and have access to it.'		
		UKB3: 'One of the things that companies essentially are uncomfortable with sometimes is that their customers know that they're funding the invoices.'		
		UKS4: 'Sometimes we feel that if we use that service we would be looked at by that company as if we're struggling for money and that's not an image that we want to give that company either. So, if they suddenly see that we're drawing down money early they think "oh this company is in trouble because they have to pull their money"		
		UKB1-1: 'I think it's probably, if you were a company going to Tesco wanting to sell to Tesco, would it be a perception of you being a weaker company if you were asking them for [reverse factoring].'		
	Awareness in terms of transparency (About whether arrangements are clear and known about)	UKS11: '90% of banks will actually suggest invoice discounting because it's very clean, it's very transparent, they get a day-to-day measure on what's going on because you have to send the invoices. So, if you think about an overdraft you could have a £650,000 overdraft, the bank doesn't know what you're invoicing and what you're collecting in money because you're not reporting daily. So, the banks would prefer you to have invoice discounting because its more intrusive and they've got more information on you, and they have it daily.'		
		UKS6: "Well the thing is it all goes, the way that we do our back-office the company that provide our factoring service is the company that people pay on our behalf anyway. So, when [a retailer] buys our stock they don't buy it from [us] they buy it from the other company, the back-office company, they are effectively our supplier. So [the retailer] will pay this company after say 60 days, so that makes no difference."		
	Niowii uooui)	UKB2: "It's like on the invoice discounting side of things, invoice discounting works and we quite like invoice discounting. If I've made that cup and I deliver it to you, I raise an invoice on delivery, there's a nice audit trail. You can see it being produced, you've signed to accept delivery, we've raised an invoice against that, it works really well".		
Control	Control for manipulation	UKS5-1: 'the reason [reverse factoring] came about first of all is we were on the 30-day payment terms with them [the customer] and they wanted to stretch it to 120 days they never said you have to do it. But they were putting a lot of pressure on to do it We didn't do it		
(About influencing or	(About using SCF to manipulate other parties)	willingly.' UKE1: 'Well, quite often the big company says you have to do this – so then they do it. But they do it more because they have to do it rather than because there's an opportunity for them.'		

Major Concern	Concerns in Relation to the Major Concern	Illustrative Quotes (Examples)
shaping the practice of SCF)		UKS5-3: 'So I came from a construction background where they didn't have anything like this and where cash-flow was absolutely diabolical and you did use your suppliers for your cash flow and it was murderous, it was awful'
,		UKE1: 'Some big companies will say even if you don't want to use the factoring element [RF] you still have to go onto the platform to lodge your invoices and to get all your payments even if they're just traditional payments. So, there's two different levels of being forced to use it'
		UKB1-1: 'I have customers that don't use sales finance because they're not sophisticated enough to use it. They shy away because they're nervous about using the system, which might be the same as you find with utilising supply chain finance.'
		UKE2: 'It depends on the type of supplier, because obviously there's investment and resource required at the supplier's sideBecause they have to have that technology to be able to do it at their end and it needs to be able to work with their finance systems and their accounts systems. So, there's a bit of investment required.'
	Control of complexity (About capacity to deal with complexity)	UKS19: 'There's a lot of admin involved in applying for these things and they want to do credit checks and maybe they want security. So, you know if you borrow money off financial institutions you might have to sign personal guarantees and all these things and we don't need any of that.'
		UKE1: 'One of the other issues, internal issues that companies face is that they, if they provide goods and services to multiple customers each of their customers might have a different supply chain finance programme and a different supply chain finance platform. And therefore, an SME would have to link into a number of different programmes, all of which have different rules and terms and conditions and so forth, and different technologies with different integration and implementation issues.'
		UKE1: 'I think, for a small company, the biggest challenge is it's complicated and small companies tend not to have many people who can focus on things people have to do everything and they have many different roles, and therefore they can't spend time getting to understand the supply chain finance programme and the technology for what is ultimately not many transactions.'
		UKS5-3: 'You can draw down on that [finance] as soon as it's been accepted at this 2.5% rate. You can do that as and when you need it. You can do the whole facility in one, you can do it 200 grand [thousand] a day, you can do it whatever you want, however you need it for your cash flow.'
	Control by flexibility (About level of flexibility that contributes to control of firms)	UKB2: 'If you have a business that is expanding and growing, then invoice discounting, assuming that it meets all the criteria of invoice discounting, is probably the most flexible and cost-effective way of doing it.'
		UKS5-1: 'They [banks] would only release the whole of an invoice, so we couldn't just draw down bits of money With supply chain finance, it was that you have to draw down 100% of an invoice. So, if an invoice was £400,000 but we only needed £50,000 we'd have to take the whole £400,000 Whereas with invoice discounting we can just draw down what we want when we want.'
		UKS5-3: 'We use [Bank B] and they're really good, they will speak to us; they want to work with us. In the last 15 months we've increased our facility twice. We went from a 900,000 limit to a 1.5 million limit to a 3 million limit, and every time they've worked with us and they've managed to get it increased.'
	Control of confidentiality	UKS11: 'we do the chasing and we do not tell the customer that it's invoice discounting – that's confidential between us and the bank. The customer gets the invoice, we chase the invoice.' UKS4: 'And again, we were worried about how they would look at us as a company I'd rather work on that with a bank and the customer
		not see that. That's not something that you want to show the customer that you're using financing. But that's my personal feeling on it.'

Major Concern	Concerns in Relation to the Major Concern	Illustrative Quotes (Examples)		
	(About the need to keep finance arrangements secret)	UKS16: 'It's secret, so you manage the process, you manage your debt collections, you invoice your clients just like normal My clients don't know that I invoice discount, they haven't got a clue'		
	Nature of business (About Sector and industry of firms)	UKS5-1: 'In recruitment, invoice discounting or factoring is very, very common, just because it's quite easy to do because there's timesheets and they're signed so the banks like it, and they give off a good rate for factoring for recruitment companies' UKS6: 'Well, the thing is its different models for different businesses. Some people with factoring find that it suits them fine already, because some people can get an invoice and then start to process the order after the invoice But for a company like ours, where people come in and order and expect delivery in two or three days, supply chain finance is just the tip of the iceberg.' TS4: 'It depends on the type of business. If it's a manufacturer, it's okay to pay interest if necessary. My business is a trading business. If we're having to pay interest it's not profitable.'		
Context (About situations or environments influencing SCF)	Regionality (About differences between SCF adoption in different regions)	TB4-1: 'We are collaborating with eight public companies, both state-owned and private firms to provide finance for their distributors. These corporate firms provide us with the list of their customers and related information.' UKB3: 'The supplier if they're in India or somewhere else they might find payment facilities in their country are more expensive. Whereas, utilising [anchor firm] wholesalers' facilities might be cheaper, which is why they might use it.' TB8-1: 'The sponsor [anchor firm] gave us a list of selected dealers. These dealers can sign up for buyer finance [distributor finance] with a lower interest rate and no collateral is needed.' UKS2: 'If, as I say, one of our raw materials is coming, actually two are now coming, out of China then getting supply chain financing or any trade financing for raw materials coming out of China is very, very difficult indeed. In Europe it was easier but even out of South Africa it is very, very difficult. So, these are the things that raise the cost and financial risk to SMEs massively. And this is actually why we've started to look more heavily at supply chain financing rather than trade financing'. UKE4: 'There became a culture in this country [of] late payment, of people holding onto their money longer. So, we saw some examples of businesses providing goods or services and maybe waiting 120 days, four months, to be paid for a small business one third of payments are late. I'll leave this with you. The average value of each late payment is £6,000. 37% have cash flow difficulties. So, this is the main one, 50,000 small businesses every year finish, they close because of late payments.'		
	Legality and legitimacy (About laws, regulations and less formal standards that influence SCF adoption)	UKE5: 'Even though there are still concerns regarding enforcement [of the Business Security Act B.E. 2558], particularly regarding lenders' rights, some banks started offering [triadic] supply chain finance in 2018. The law helps facilitate [these] arrangements, but its newness means banks have to find ways to mitigate risk.' UKS5-1: 'They [the buyer] stopped doing it. Now I think, I'm not sure, but it was a FTSE250 company, so it's a public company and I think they had some issues with their accounting practices that didn't agree with the fact that they were doing SCF.' TB6-3: 'We [TB6] record suppliers as borrowers of reverse factoring simply because our money goes to the suppliers. However, we have no recourse against the suppliers. Although we assume the buyer's credit risk for reverse factoring, we cannot say that the buyer is the borrower. The buyer only signs a service agreement. There is no loan agreement between the bank and the buyer'.		

Table IV. TCE and non-TCE considerations affecting SCF adoption by SMEs

	Considerations	Category	Preliminary category (Concept)
	Frequency	Control by flexibility	Discounting options
	Bounded rationality	Relational transition	New finance offer, not always cheaper
	Bounded rationality	Control of complexity	Level of sophistication
		Relational longevity	Contractual lock-in
	Asset specificity	Relational transition	Having to use different financing schemes concurrently
		Control of complexity	Lack of standardisation
rns		Awareness as promotion	Promotion to raise awareness
TCE Concerns		Awareness as promotion	Not being widely publicised
201		Impediments to awareness	Divisionalisation
E (Information impactedness	impediments to awareness	Certain schemes are non-ubiquitous
TC			Providing a nice, clear audit trail
		Awareness in terms of transparency	Transparency through collaboration
			Fees discrimination and excessive fees
		Relational power	Bargaining power
	Opportunism	Control for manipulation	In exchange for prolonged payment extensions
			Pressured to participate
			Offering later (after price negotiation)
		Relational trust	As a trusted advisor vs. distrusted advisor
	Relationality Matters		Collaborating with suppliers
			Retaining control over payment collections
		Relational longevity	Long-term financing relationships
S			Long-term supply chain relationships
ern			As a pre-condition
Non-TCE Concerns			Maintaining relationships
$C_{\mathcal{C}}$			Damaging existing relationships
CE		Relational transition	Increase in financing costs of existing relationships
1-T			Resulting in terminating a relationship
Vov	Signalling Concerns	Awareness as signalling	Deceptive signalling
	Signathing Concerns	Awareness as signaturig	Vulnerability signalling
			Authority and availability
	Control Imperative	Control by flexibility	Size of SCF facility
1	Condoi Imperative		Commitment
			Two separate agreements

		Control of confidentiality	Disclosure of financing used
	Contextual Embeddedness	Nature of business	Size and age of establishment
			Industrial sector
		Regionality	Competitiveness
			One bank only
			Culture of late payments
			Government initiatives
		Legality and legitimacy	Accounting treatments
			Off-balance-sheet financing

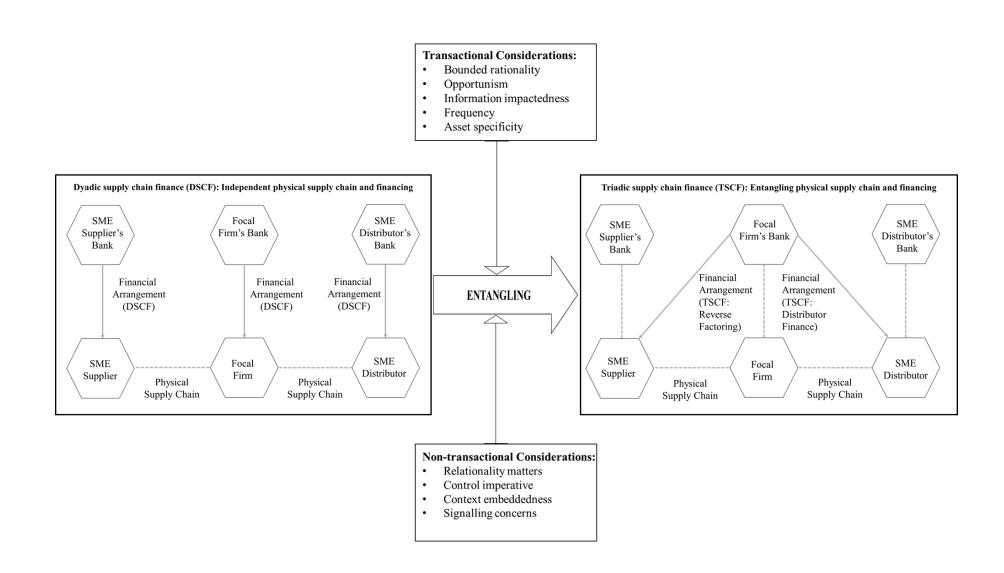


Figure 1. The proposed conceptual model of how SMEs understand and make decisions about SCF