

Modelling and Assessing for Sustainable Supply Chain Finance: A Case Study of (Practitioners) Bankers and Academician in Malawi

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Abstract

All over the world, the concept of Supply Chain Finance has emerged through the globalization of trade. The common sense within a supply chain is that suppliers are trying to receive their payments as early as possible while buyers are increasing their payment terms. SCF attempts to cope with this problem and creates opportunities for all parties creating a 'win-win' situation for both buyer and supplier by giving the buyer the opportunity to extend payment terms and pay the supplier in advance. This process allows all parties to free up operating working capital and provide financing in favor of the supplier. With the development of Supply Chain Management, two approaches gained the most recognition; Working Capital Management and Supply Chain Finance. Both are considered drivers for a financially stable supply chain. A Supply Chain. This thesis aims to provide a single definition by reviewing the theory of Supply Chain Finance and provide the reader with an implementation checklist and its benefits of it. The theory will then be backed up by expert interviews

1. Introduction

This chapter will provide the reader with the main idea and context of the thesis. At the beginning of this chapter, general overview of financial concerns within supply chain will need to be explained, followed by the problem description. Next, the research questions will be presented, followed by the main and specific objectives of this thesis a general overview will be given.

Global trade has increased enormously in recent decades. Organizations and institutions have increased their sharing of knowledge, capital, and trade in a rapid manner. The Internet and new technology innovations have made it possible to execute business all over the world. Furthermore, trade has increased greatly over the last three decades. This trend incorporates many factors but most importantly is the significant reduction of trade barriers (WTO 2013). All these circumstances have led to more open trade between organizations and an increase in concentration on supply chains

aimed to compete in the global market. Organizations have realized that the flow of information and materials deserves more attention and has to be optimized. This has led to new research in Supply Chain Management (SCM)

where the general focus of companies has relied not only on management but traditional logistic tasks such as the control of quality, inventory and transportation within the supply chain. Yet, there seems to be the need to address more economical and financial problems as SCM has expanded its scope to cash flows and financial business activities. This development has changed the role of supply chain actors and their relationships as new financial opportunities within the supply chain have opened up.

The credit crunch of 2009 has led to an increase in attractiveness of new financial management solutions and especially Supply Chain Finance (SCF). The crisis exposed the scarcity in

cash available for companies (especially SMEs) as it was tied up in working capital. This scarcity of cash has led to reduced cash available to obtain capital. At the same time, demand volatility increased, resulting in higher investments in safety stock and holding more precautionary cash (Pezza 2011). On the other side, multinationals were able to remain fairly stable. Also, banks were not able to provide suppliers (usually SMEs) with further loan facilities. For example, within the European Union the problem of obtaining bank loans has aggravated for SMEs especially in weaker economies. This, to some degree, was overcome by introducing new policies facing those constraints for SMEs. Yet, financing cost for SMEs are still troubled by sovereign spreads, macrocosmic weaknesses and the borrowers' risk. In addition, spreads between bank lending rates on loans to non-financial corporation continued to be higher for SMEs in countries like Italy and Spain than before the crisis (Wehinger 2014). This forced organizations to identify new and different solutions to safeguard their working capital but rule out the potential of new risk and possible damages at the same time. One solution, which was adopted by many companies, was an aggressive cash management strategy in order to secure steady cash levels while credits were declining from financial institutions (Steeman 2014). More importantly, large international buyers realized supporting their suppliers financially would secure business continuity and flows of supplies as well as financing sales growth on the side of the supplier (EBA 2014). The market of SCF is expected to grow rapidly to revenues of \$4 billion by the year of 2019 (McKinsey 2015).

Even though the SCF market is still evolving there is some showable literature available in the form of reports, working papers, articles, guidelines and other readable information. Across these different types of literature and information, the definition of SCF differs. SCF is worth research as supply chains

are an integral part of most business and is highly essential to an organization's success.

This thesis provides an overview of the SCF landscape, especially reverse factoring and its definition. Since the financial crisis, it has become one of the most popular and widely used instruments (Aite Group 2014).

2. Related works

The cooperation between academic theory and practice in this thesis is suitable. The literature used in this thesis is either theoretic e.g. Hofmann (2005), Hofmann & Belin (2011), Pfohl & Gomm (2009), company specific analysis (e.g. Wuttke (2013)), evaluations of SCF (PWC (2009, 2017)), or examine SCF aspects without a specific approach (Aite Group (2014), Seifert & Seifert (2011)). Ergo, the literature basis is large enough to write this thesis regarding SCF. In order to have practical application, expert interviews will be incorporated.

Hofmann (2005) investigates new tasks at the intersection of finance and logistics/supply chain management and how it opens new business areas for financial providers as well as for logistics service providers. Another paper by Pfohl & Gomm (2009) reviews the state-of-the-art research regarding financial flows in supply chains and Hofmann & Belin (2011) wrote a book about the background on the growing importance of SCF. Wuttke et al. (2013) provides inside into the adoption process of SCF on the bases of six European case studies while PwC (2017) provides a survey to understand the current position and awareness of SCF and implementation drivers as well as critical factors. Aite Group (2014) and Seifert & Seifert (2011) also provide more practical inside into the understanding of SCF.

2.1 Literature Review

The study focus the literature review on the topics related to this research, such as reverse factoring, supply chain finance, and the cost of financing. There is a growing body of supply chain finance

literature that is centered on working capital optimization. This literature examines either buyer–supplier relationships or the whole network under certain supply chain setups (Gelsomino et al. 2016; Xu et al. 2018; Wiedmer and Griffis 2021). Wetzel and Hofmann (2019) provide an overview of the working-capital literature by differentiating traditional, alternative, and progressive supply chain approaches. Seifert et al. (2013); Chakuu et al. (2019) review the trade credit literature in general. A special review on SCF and block chain is by Liu (2021). In the following, we examine how borrowing rates and risk spreads determine reverse factoring cost and benefits.

Pfohl and Gomm (2009) characterized supply chain finance as interest rate arbitrage and considered the capital cost rate as the central starting point for optimization. They, along with Gomm (2010), highlighted the importance of payment term extensions as well as the role of rate spreads and credit ratings as relevant factors. Equally, Hofmann and Belin (2011) considered sophisticated working capital models and examined the quantitative and qualitative benefits. They found benefits including liquidity and cost savings due to lower borrowing costs, measured in the weighted average cost of capital (Lind et al. 2012; Brandenburg 2016). Of course, there are different notions of reverse factoring in practice (Caniato et al. 2016). For instance, advanced reverse factoring is characterized by bringing several buyer's and supplier's together to increase flexibility. Wuttke et al. (2013) studied automated IT-based reverse factoring platforms. Automation integrates the data of all participants and triggers a cost-effective mechanism. This gained flexibility allows either the manual or automatic discounting of receivables with the focal buyer. In relation to our work, Randall and Farris (2009) studied the potential of interest rate differentials in an optimal supply chain framework and found shared positive effects. Similarly, Wetzel and Hofmann (2019) analyzed in a generic inter-organizational setting the win–win scenarios in

supply chain financing Marchi et al. (2020). Interestingly, interest rates as such do not play an explicit role in their analysis. However, in the current low interest rate environment, it would make sense for companies with high amounts of cash to pay back earlier instead of extending payment terms with suppliers according to Wetzel and Hofmann (2019). Hence, the literature indicates a lack of studies focusing on interest rate differentials over the business cycle. Our work exactly focuses on this gap and studies the role of interest rate differentials.

Klapper (2006) examined the advantages and disadvantages of reverse factoring in detail. Indeed, she highlighted the advantages of SMEs, particularly the role of interest rate arbitrage. Similarly, Dello et al. (2015) examined the win–win situation of reverse factoring in a simulation approach and found that it depends heavily on market conditions, including interest rates. Nonetheless, they treated rates as a fixed exogenous variable. Comparably, Tanrisever et al. (2015) examined the interaction of reverse factoring on operational financial decisions. They argued that—provided the payment period remains unchanged—reverse factoring would always be preferable versus conventional debt financing from the supplier's point of view. Naturally, extended payment terms vastly influence the supplier's benefits. Related to our research question, they argued that lower risk-free rates may discourage suppliers due to higher opportunity costs in case of payment term extension. On that extent, we empirically study this notion under the present low.

2.2 Supply Chain Finance theory

SCF gives the opportunity to reduce operational working capital. Its most popular mechanism is reverse factoring (RF) and also known as the buyer-centric approach, approved payables finance or simply SCF. In this thesis the terms SCF and RF will be predominantly used when it is needed. Since the economic crisis in 2009 SCF experienced a

rapid growth because SCF offers a different approach financing an organizations' supply chain. In the same breath a good number of papers, articles, guidelines and data has been released about how SCF can positively affect an entire supply chain. This being said, SCF is still in its development phase, both in literature and in its implementation process for business.

2.3 Supply chain finance definitions

The differences mentioned above between academics and practitioners' points of view in the field of SCF, are reflected in the definition of supply chain financing. In one of the first academic papers published in relation to SCF, Hofmann defines it as follows: "located at the intersection of logistics, supply chain management, collaboration, and finance, SCF is an approach for two or more organizations in a supply chain, including external service providers, to jointly create value through means of planning, steering, and controlling the flow of financial resources on an inter-organizational level. While preserving their legal and economic independence, the collaboration partners are committed to share the relational resources, capabilities, information, and risk on a medium to long-term contractual basis" (Hofmann 2005). In contrast, the Aberdeen Group, a business intelligence research firm generating research catered to the private sector, defines SCF as "a combination of trade financing provided by a financial institution, a third-party vendor, or a corporation itself, and a technology platform that unites trading partners and financial institutions electronically and provides the financing triggers based on the occurrence of one or several supply chains events" (Aberdeen 2006). While academic publications have concentrated around the internal treasury-related financial supply chain, practitioner focused publications adopt a more external financial product-centric supply chain with emphasis in financial software. This research adopts both approaches as complementary and will study both.

2.4 The Internal Financial Supply Chain

The literature review on the internal financial supply chain leads to accept as valid the general academic consensus that efficient management of the financial supply chain enhances corporate performance. The objective of efficiently managing the financial supply chain is to improve the working capital position of both, buyers and suppliers. Working capital is defined as accounts receivable plus inventories minus accounts payables, that is, for how long a company has to finance its own inventory. This concept has been coined as "cash-to-cash cycle" (C2C) or "cash conversion cycle" (CCC). C2C measures the number of days between the initial cash outflow (when the company pays its suppliers) to the time it receives cash from its buyers. It is calculated as: days of sales outstanding (number of days to receive accounts payable), plus days in inventory (number of days those goods remain in stock), minus day's payable outstanding (number of days to pay the accounts payable) (Camerinelli 2009). For buyers, the objective is to have access to extended payment terms without loading suppliers with increasing financing costs, reduce working capital requirements and improve the relationships with suppliers. For suppliers, the objective is to receive early payment of invoices, while having more predictable payment flows. There is academic consensus on the overall benefits of an efficient management of the financial flows in the supply chain. Most of the academic literature related to SCF deals with the relationship between an efficient C2C cycles with the value of the firm, that is, how the reduction of working capital needs, enhances the value of the company.

(Hutchinson et al. 2009; Presutti and Mawhinney 2007). Other authors have focused on the impact of the financial supply chain on corporate performance, providing some interesting data. For instance, the *Supply Chain Management Review* special supplement on SCF estimated that "4% percent of the cost of finished goods relates to financing — more than is spent on logistics and

transportation” (Hartley-Urquhart 2006). Until the last decade, to meet their working capital financing needs, suppliers either seek financing on their own, or approached their larger buyer trading partners for better trading conditions such as earlier payment of invoices. In fact, the influx of liquidity in the supply chain has typically been done by large corporates by paying earlier their suppliers’ invoices while receiving later their own payables from buyers. Although this practice might sound counterproductive for companies, research demonstrates that by adopting a collaborative approach and sharing information among sellers and buyers on their working capital structure, all actors in the chain can benefit. This comes at the expense of some trade-offs that must sum positive for all parties involved, such as for example, accepting some deterioration in a company’s C2C numbers in order to improve the financial position of its trading partners and therefore, mitigating its counterparty credit risk. The limitation of this approach is the potential reluctance of actors in the supply chain to share proprietary data (Hutchison et al. 2009). According to these authors, this could be overcome by building trust in the chain.

Authors such as Dyckmann (2009) see an inherent difficulty in the previous approach. Because buyers and sellers have conflicting goals, the buyer wishing to delay payment for as long as possible and the seller wanting to accelerate collections, a mutually beneficial process does not seem feasible.” Dyckman explores instead the alternative of introducing external FIs in the chain. He describes this process as follows: “the large corporate buyer or seller brings credit arbitrage into play, giving suppliers and/or buyers of its products access to capital at reduced rates” (see figure 2). The way a credit arbitrage is commonly achieved when a large, investment-grade buyer provides both, its banks and its suppliers, with information about invoices and approved payments. The bank sees these invoices as credit risk from the larger corporate buyer, and therefore is able to “discount” them (that is, to advance cash the seller supplier) and collect a later payment from the large buyer (Dyckman 2009). Although this financial product has received different names depending on its nuances (whether the invoice discount occurs pre-shipment or post-shipment of goods, or whether is done on a ‘recourse’ or ‘nonrecourse’ basis against the buyer), we will generically refer to it as *factoring*.

2.5 The External Financial Supply Chain

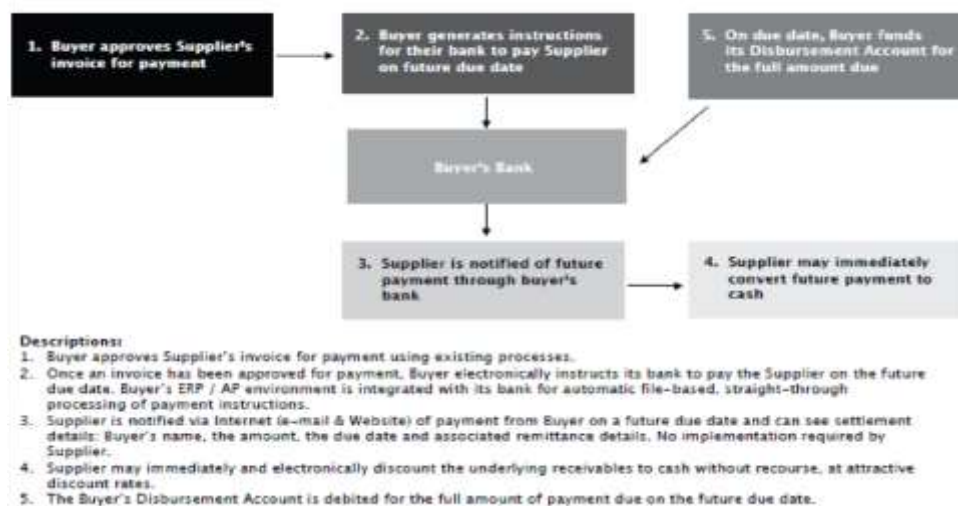


Figure 1. The External Financial Supply Chain

Regarding measurement, the two most common used indicators related to SCF are working capital and CCC.

2.6 SCF and SMEs

Dyckman points out that in recent years, FIs began to realize that strong buyers could support the funding needs of its supply chain partners while still meeting its own working capital goals. The way that large buyer companies' benefit is by negotiating extended payment terms or lower costs of goods sold from their suppliers in return of providing increased liquidity and access to reduced financing costs. The author highlights that in the advent of the financial crisis, more and larger buyers are approaching banks to implement SCF programs as a way of stabilizing the financial health of their supply chains, instead of improving their own working capital positions (Dyckman 2009). A study carried out by Abbey UK Corporate Banking concluded that factoring solutions were becoming progressively more relevant as buyers were increasing the number of days to pay their invoices. Among European corporates, invoices are paid in 59.2 days on average with payment delays rising, equating to €250 billion in delayed accounts receivables, or funding needs (Hawsen 2008). The burden of this trend is bore by SMEs, which typically pay a much higher cost of funding, demonstrating the need for SCF solutions to target SMEs.

As Sarah Jones describes it, "if an SME supplier is having to finance a higher accounts receivable balance at a cost of finance that is significantly higher than the platform company that it supplies, it is going to result in, at best, a higher cost of goods. At worst, the SME supplier cannot access sufficient financing to support a higher working capital need and goes out of business" (Jones 2008).

The benefits of factoring and SCF as a financial tool for SMEs are particularly important in emerging countries. The context of emerging market countries might be propitious for SME factoring products given that SMEs typically face more difficulties to

access sufficient financing in the local banking systems, while large firms (domestic, foreign, or multinational) usually have more inexpensive access to domestic and foreign bank and public-debt financing. Factoring may also be a well-suited product in weak business environments with uncertain commercial enforcement laws and inefficient insolvency resolution systems. "The virtue of factoring in a weak business environment is that the factored receivables are removed from the bankruptcy estate of the borrower and become the property of the factor" (Kappler 2006).

2.7 What Makes Successful SCF Programs Work

Dyckman (2009) identifies five key areas within a company that need to adapt to make external SCF programs work: treasury (to understand the financial impact), credit risk (to provide insight with regards to which suppliers to include in the program), accounts payable (to manage the introduction of another payment type directly to banks), procurement (as they maintain the direct relationship with suppliers) and especially, information technology (to develop some form of electronic interface with the Partner FI to support payables or e-invoicing). The author comments that the adoption of an SCF program should follow a top-down strategy with impulse from the executive management down to the rest of the involved areas. The table below found in Dyckman's research (2009) provides a summary of the benefits of implementing SCF programs for buyers and suppliers. In addition, FIs also benefit by accessing new customer bases, cross-selling opportunities, and enhancing the risk-return of their portfolios given the high return, low risk profile of working capital financing products vis-à-vis other riskier products.

Table 1

Benefits of Supply Chain Financing

<i>Benefits for buyers</i>	<i>Benefits for suppliers</i>
<ul style="list-style-type: none"> • Achieves working capital or other commercial terms benefit • Improves cash flow by reducing working capital and related funding costs • Improves commercial terms without increasing cost to the supply chain • Transitions suppliers to electronic payments • Uses a powerful electronic payment tool • Provides suppliers with remittance visibility over the Web • Reduces transaction costs • Reduces payment issuance fees • Reduces administrative costs in accounts payable and results in fewer supplier inquiries • Resolves errors early and eliminates error replication proactively • Improves relationships with suppliers • Introduces visibility into the payment process • Increases suppliers' cash flow • Reduces suppliers' borrowing costs 	<ul style="list-style-type: none"> • Attractive liquidity management tool through the early payment option • Converts accounts receivable to cash through a more attractively priced, non-recourse sale • Frees up borrowing capacity with lenders • Positive working capital benefits • Increases cash flow, reduces accounts receivable and days sales outstanding • Reduces capital costs (eg accounts receivable carrying costs) • Full payment transparency • Provides details on approved payments and their timing • Provides full detail remittance information for each payment • Provides early resolution of errors and proactive elimination of error replication • Enhances certainty of payment • Ability to receive information and payment in a format that best suits their needs • Over the Internet — in either a statement or report format • Through their local relationship bank via electronic payment

Source: Dyckman 2009.

2.8 The Challenges

Despite the general intuition about the benefits of adopting a SCF program, there is still a research gap with regards to the role that third party FIs could play enhancing a more efficient management of the financial supply chain. Although it has been present in research targeting practitioners since approximately a decade ago, and most global banks have implemented some sort of SCF line of business, more empirical research needs to be done with regards to the challenges and benefits of implementing SCF programs with external funding providers (Hawser 2010). SCF first emerged as a field with a large potential for FIs due to the low credit risk associated to working capital financing and the possibility to tap networks of new customers by leveraging the distribution platforms

of large clients. However, the literature review suggests that FIs have not managed to fully reap the benefits of SCF yet. For instance, the *Journal of Supply Chain Management Review* has published several articles from 2006 to 2008 related to the potential of SCF and the progress that the finance industry is making (Kerr 2007; Atkison, 2008), although not yet a fully developed SCF framework. Among all the publications depicting the large although not yet fully achieved potential of SCF, the most pragmatic one is a McKinsey study in October 2010, “Supply Chain Finance: From Myth to Reality,” which reviews the evolution of SCF from simple domestic working capital instruments such as reverse factoring, to products offering cross-border solutions such as international reverse

factoring and other trade finance instruments. It highlights that the next necessary step for SCF is to evolve towards an integrated electronic working McKinsey points out that although integrated SCF programs could provide significant benefits to all parties involved, as of today, no bank has achieved such a fully integrated SCF solution. The study identifies the lack of common standard as the main constraint for SCF to fully attain its global potential as a data exchange among different technology platforms. The study identifies some milestones that FIs need to achieve in order to reach integrated end-to-end SCF solutions: cover the main trade corridors, target industries in which payment terms vary widely across the supply chain, secure participation of buyers first, or become 100% paperless (Hurtrez and Salvadori 2010).

2.9 How SCF is Important for the SSCF Framework

The SCF literature review exercise confirms that SCF is an evolving research discipline. As it becomes more understood, so will the relationships along supply chains. “The challenges arising with these developments bring along a new understanding and role of the supply chain actors and their relationships. New inter-functional and inter organizational tasks at the intersection of finance and logistics open new supply chain opportunities” (Hofmann 2005).

All the same, the current state of the art with regards to SCF suggests that: i) an efficient management of the financial supply chain enhances corporate performance; ii) the use of external funding providers SCF programs can result in win-win-win situations for all parties involved with regards to efficiently managing financial flows and building trust for information sharing; iii) the use of SCF products such as factoring can be particularly advantageous in emerging countries and SME financing; and iv) important challenges remain for external SCF programs to achieve its potential

capital platform that could offer supply chain end-to-end financing solutions. Yet,

(namely those related to risk appetite, technological support and industry specialization). These findings lead to the following preliminary assumptions about relevant elements that should be present in SSCF programs: I) seek specialization by industry; ii) rely heavily on strong technological platforms; iii) count of a buyer’s driven strategy, whereby the buyer, who best knows its own supplier network and who should be most interested in implementing a SSCF program, encourages its network of supplier to participate in the SSCF program.

2.10 The Triple-T of Sustainable Supply chain financing

No matter whether the objective is to meet just in time standards, reduce carbon emissions or improve cash flow management, there is consensus that collaborative, transparent and aligned supply chains are more successful. Concepts such as teamwork, transparency, and traceability of incentives, increasingly resonate in supply chain related literature. They have become passwords to increased efficiency, better service, and enhanced revenues. What is more interesting is that the literature review exercise reveals that these are common themes in the three building blocks of this framework (SCM, SSC, and SCF). Let’s now summarize how these concepts interrelate and how they could be part of an integrated framework.

Teamwork

SCM theory perceives collaboration as a way to enhance revenues and provide better service by having different actors in the chain work together in the definition of processes and products. This is achieved mainly by including suppliers in the design process and by feeding data into the chain so that suppliers readjust rapidly to changes in the environment. SCM theory has progressively looked at collaboration with better eyes. In fact, in recent

years SCM theory has veered from an approach of confront and competition, to a more inclusive approach that relies on the support of suppliers to build more responsive chains.

For SSC theory, collaboration resides at the heart of the greening process. In order to build more sustainable supply chains, corporations need to rely on the responsibility of their suppliers to meet the necessary standards. Although some authors argue that audits and imposition add value to the process, most literature suggests that a collaborative approach is more effective. Teamwork in the field of SSC includes training, information, and communication.

Finally, SCF looks at collaboration as a way to enhance cash flow management efficiency in the supply chain. Teamwork is also naturally embedded in SCF processes. In fact, traditional SCF products such as factoring, rely on the premise that a buyer company is willing to give up part of its financial profit by shortening its accounts payables at the expense of providing some financial relieve to smaller suppliers to become financially healthier and stay in business. Overall, all three theories coincide on the fact that supplier continuity is preferred over supplier competition. It is more valuable to help a good supplier meet the common goals than to hamper the process. Teamwork is also viewed as a way to attain enhanced adaptation, agility and resilience. Yet the approaches to teamwork differ in relation to the advancement of the concept. While in the field of SCM the idea of “orchestrated networks” started to gain momentum more recently, following the publications of the Fung brothers *Competing in a Flat World*, the SSC discipline developed with the collaboration concept embedded as a means to the greening process.

Challenges to Teamwork

Unequivocally, all three theories agree on the fact that building trust along the chain is a key ingredient to improved teamwork. And yet, it remains the biggest challenge. How to convince a

corporate to make a supplier participant of a product redesign process that could be potentially shared with other competitors? How to train suppliers’ managers in emerging countries on controversial issues such as gender salary fairness, or social discrimination? How to persuade a supplier to share their database of accounts receivables so that a joint system of electronic invoice payments can be implemented? Suggested solutions from the three fields of expertise hint at third party intermediaries as a way to build trust along the chain. Some SCM authors have pointed to third party distributors as controllers in the chain, especially in emerging countries, such as the case of Li&Fung Company discussed in Chapter 2. Distributors would act as regulators in the chain, without being direct competitors to either supplier or buyers. The independence of distributors is therefore an important quality in trust building for collaboration. SSC approaches the questions on how to build trust by increasing communication and training, while SCF appeals to mutual efficiencies gains over time. Integrating SMEs in the equation is also seen as a challenge related to increased collaboration. Less sophisticated inventory management systems in SCM, laxer environmental and social standards in SSC or lack of electronic invoice systems in SCF, increase the difficulties of working with SME suppliers. This is especially true in the case of SMEs operating in emerging countries environments. Finally, and to a lesser extent, dealing with multilayer links in the chain is also identified as an additional difficulty to collaborate. This is particularly the case in the field of SSC were engaging with second and third tier suppliers to preserve the integrity of the entire supply chain becomes more relevant. In the fields of SCM and SCF, relationships are primarily held with first tier suppliers, which typically deal and are responsible for issues related to the subsequent tiers in the chain such as in time delivery of goods or financial health of smaller suppliers.

Among the creative solutions to foster teamwork in

supply chains, some authors have argued in favor of redefinition of partnerships such as the inclusion of third-party players (alliances with governments, NGOs and other nontraditional actors), as well as rethinking the common terms of risks, costs and rewards, beyond the obvious patterns. The preceding discussion on the benefits and challenges of collaboration, and the use of third-party intermediaries to help build trust in the chain leads to the first proposition in the SSCF framework delineated by the authors of this research:

Transparency

Intimately related to collaboration, transparency is the second common element identified in all three theories. Either the purpose is to redesign a new product with stronger components, reduce water consumption among suppliers or have access to more favorable financing terms, relying on information about the type of materials used by suppliers, the kind of water supply facilities in sourcing countries, or the financing mechanism used by suppliers, becomes decisive. Transparency is closely related to measurement. Increasing transparency in the chain is not only a matter of sharing raw data, but doing it in a meaningful way. This is where standardized quantitative and qualitative indicators come into play. SCM has long dealt with process measurement. The sub-discipline of buyer-supplier relationships has recurred to qualitative indicators to measure the effectiveness of contacts with suppliers. Indicators related to socialization, communication, loyalty, etc.

SSC theory still struggles with measuring the economic, social and environmental impacts of suppliers. However, progress has been made with regards to standardized sustainability reporting under the Global Reporting Initiative (GRI) framework. Although the specific guidelines for reporting on supply chain processes will not be published until 2013, the proven track record of GRI as an integrated reporting framework supports the possibility of becoming the reference framework

for sustainable supply chain reporting. Finally, SCF theory has consistently referred to two main indicators as drivers of effective supply chain cash flow management: Cash-Conversion-Cycle and working capital. Overall, all three theories agree on the benefits of enhanced transparency as a means to more efficient processes in each of the disciplines. Among the mechanisms delineated in literature to facilitate more fluid data sharing, we find more socialization mechanisms, user-friendly questionnaires to report systematic data, or integration of IT systems when possible. There is consensus however that no matter how the data sharing processes are organized, the willingness to report reverts to the level of existing trust in the chain.

Traceability

Supply chains that have well-structured and traceable incentives are more effective in achieving their strategy goals. This is common understanding in the three theories analyzed. Right incentives often translate into having a winning situation for all parties involved. In SCM theory, well designed monetary incentives might be the driver for loyal suppliers to provide in time quality products, usually in competition with other buyers. Incentives in SCM are especially relevant when information does not flow smoothly in the chain or competition is fierce.

SSC theory adopts a less contentious approach and argues for the use incentives to motivate suppliers become compliant with sustainability matters, irrespective of competition. Typically, a sustainability support program for suppliers is an incentive in and of itself as it helps suppliers become more competitive and reliable companies for other buyers as well. Although this indirectly helps competitors, SCM literature argues that benefits overcome the costs. Finally, SCF theory sees incentives as an integral piece of the business model. Fund providers generally offer more favorable conditions to clients who generate more

business opportunities and who have lower credit risk. The prospect of accessing reduced financing

Finally, offering better financing terms through monetary incentives sometimes conflicts with a higher interest rate to compensate for taking SMEs' arguably higher credit risk. This is why as we move forward on more distant links in the chain, access to finance for smaller suppliers becomes more difficult. Smaller buyers cannot rely easily on extended payment terms, neither are they able to offer delayed payments when they are sellers. Furthermore, analyzing the credit worthiness of more informal companies, whose financial data is not readily available and whose financial statements are not always audited, becomes more art than science. In these cases, the role of a specialized third-party fund provider with the internal expertise to analyze credit risks might be a suitable solution to influx liquidity in the chain.

The preceding discussion about the benefits and challenges of structuring a traceable incentive program, including the need to rely on reliable information, and have independent and specialized incentives providers leads to the third proposition in the SSCF framework delineated by the authors of this research:

P3. Financial intermediaries, given their access to financial resources (the third type of flow in supply chains) and their role as third party fund providers in different tiers in supply chain, could offer incentive-based financing to promote the adoption of sustainable business practices along the chain.

2.11 Why Now for Sustainable Supply Chain Finance

Sustainable supply chain finance is defined as supply chain finance practices and techniques that support trade transactions, in a manner that minimizes negative impacts and creates environmental, social, and economic benefits for all stakeholders involved in bringing products and services to markets.

costs triggers in borrowers a more responsible approach in their credit and financial management.

There are five main reasons why sustainable supply chain finance is a strong opportunity today:

1. Supply chain finance is a fast-growing market, with expansion of about 20 percent annually.

2. Supply chain finance is becoming digital; moving away from a traditionally paper-based process offers potential for innovation.

3. Companies need working capital, and cash optimization is a tangible incentive for both buyers and suppliers.

4. Supplier sustainability performance data is still not perfect, but it is getting more and more quantifiable and readily available.

5. Financial service providers offer solutions that can integrate sustainability data.

Most companies are not yet putting in place sustainable supply chain finance programs, and banks are not yet readily offering these services. However, buying companies, supplying companies, and financial services can explore and maximize this opportunity in different ways. Global buyers have an opportunity to integrate into the supply chain finance program they offer their suppliers. Sustainable supply chain finance offers a unique solution to global buyers to achieve their sustainable sourcing goals, increase security of supply, and improve relationships with suppliers by rewarding and incentivizing sustainable behaviors in the supply chain, at reasonable direct cost to the company, if any. Sustainable supply chain finance can provide suppliers with access to working capital, stronger relationships with their customers, and the ability to quantify the value of their sustainability efforts. Suppliers should invest in their labor, human rights, environmental, and governance performance to gain access to working capital solutions and financial incentives.

2.12 The Sustainable Supply Chain Finance

Solutions

This report highlights three promising supply chain finance mechanisms to reward, incentivize, and fund sustainable supply chains: payables finance, sustainable trade loans, and smart contract solutions. These mechanisms have the potential to offer tangible commercial and sustainability benefits to global buyers, finance providers, and suppliers. Today there are only a handful of public examples of global buyers and finance providers that have implemented these solutions, and there are untapped opportunities to explore them further and scale successful models.

Sustainable payables finance solutions involve integrating ESG performance criteria into buyer-led supply chain finance programs, allowing global buyers to reward and provide tangible benefits (e.g., better discount rates) to select suppliers (e.g., those with strong sustainability performance). This solution applies to global companies that have or are setting up supply chain finance programs and want to offer a direct incentive to their own suppliers. Sustainable trade loans are loans provided to a supplier or seller of goods or services for the sourcing, manufacture, or conversion of raw materials into finished goods, which have proven sustainability attributes or environmental or social

benefits. This solution applies when a supplier needs financing for sustainable goods and projects. Smart contract solutions are self-executing contracts with the terms of the agreement between buyer and seller directly written into lines of code, including a distributed, decentralized block chain network. Smart contracts make transactions traceable, transparent, and irreversible, the tenets of a sustainable supply chain. This solution would be best applied when multiple actors in a vertical supply chain want to create sustainable change. Sustainable supply chain finance is an unrealized opportunity to improve supply chains while also achieving sustainability goals. We encourage buyers, suppliers, and finance providers to leverage supply chain finance in support of responsible and sustainable supply chains.

The Logical Deduction of the Framework

The SSCF framework propositions are deducted from the combination of two Foundational premises outlined by the authors of this research:

- The three common areas identified in the three theory building blocks (the triple-T characteristics of the SSCF framework): teamwork, transparency and traceability.
- The access that FIs have to the three types of flows present in every supply chain: products and services, information and financial resources.

Table 2 : The logical deduction of the SSCF framework

Theory Foundation	Supply Chain Flows	SSCF Proposition	Model
Teamwork	Products and Services	Resource Rationalization	
Transparency	Information	Information Transparency	
Traceability	Financial	Alignment of Incentives	

Source: Authors.

Moreover, these two premises are also related to each other: more collaboration and teamwork are related to the effective use of products and services; transparency in the chain is related to the type of

information that flows through that chain; while traceability of incentives is directly related to the cash flows and financial resources managed by the actors in the chain.

Table 3: The SSCF framework benefits

Benefits for buyers	Benefits for suppliers	Benefits for FIs
Control the sustainability risks in their chains in a cost-effective manner.	Gain competitiveness vis-à-vis other suppliers.	Improve the credit profile of their clients as sustainability related risks are mitigated.
Benefit from working with financially healthier suppliers.	Can have access to improved financial conditions.	Have access to new sources of clients and new sustainability products revenue generation with cross selling possibilities.
Able to trace the origins of them Products along the entire chain.	Receive training and coaching in sustainability International best practices, and enhance talent development.	Improve their profile as sustainable and responsible FIs in a time when public opinion is expecting FIs to take proactive steps in this industry after the financial crisis.

Source: Authors.

2.13 Reverse Factoring (RF)

Within the trade financing industry, RF is often referred to as SCF as the overall term. Established as a solution where the focal company (buyer), functioning as the centric piece, agrees with a financial provider that its suppliers are allowed to obtain credit for approved invoices by the focal company during a payment term period based on the credit rating of the focal company (Wuttke et al. 2013). Often suppliers have difficult relationships with focal companies because these buyers are able to dictate their payment terms down to them. The

main idea behind RF is that suppliers are able to sell their receivables as ‘true sales’ meaning that it is considered an off-balance sheet financing. The focal company then pays the invoice to the financial provider and/or service provider on due date which is usually extended from the previous payment term. The indicator for the financial provider is the credit rating of the buyer and the advantage for the supplier is based on an ‘arbitrage’ between the higher credit rating of the buyer. Figure 7 illustrates the difference between a transaction with SCF and

without it. Agreement without SCF.

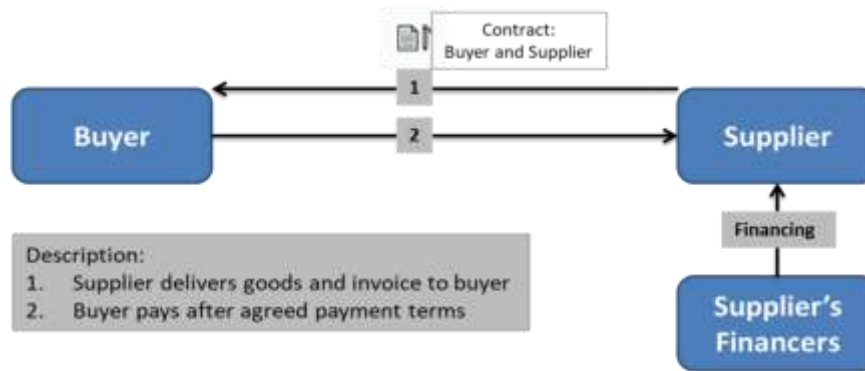


Figure 2. Agreement without SCF

In a situation where SCF is non-existent, both parties (buyer and supplier) have to find ways to finance its supply chain operations and the duration between payment and sales on their own. Without a mutual agreement, there is no possibility to leverage

from the better creditworthiness of the buyer. The financial provider bases its credit decision on the supplier's or buyer's information given to them. The risk associated stays with each single party.

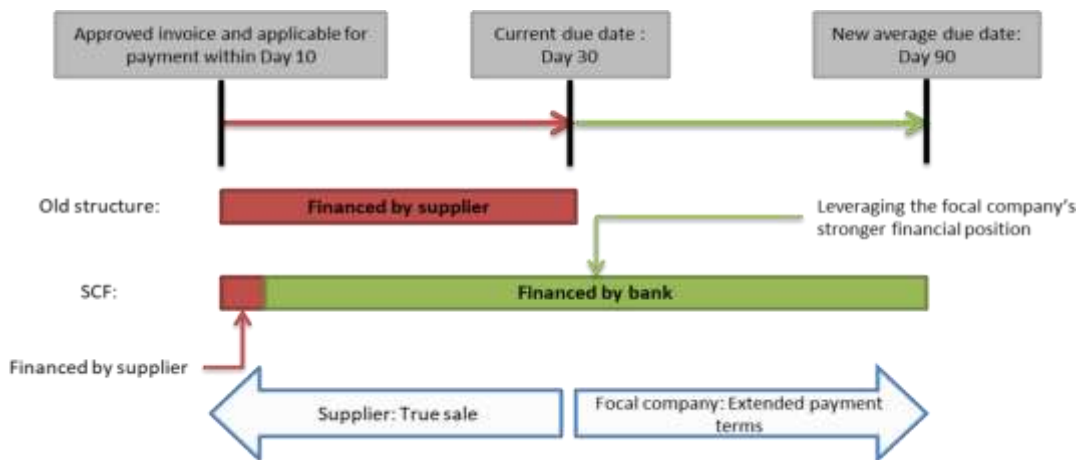


Figure 3. Payment terms

Factoring

Before RF became popular, factoring was already a common instrument in the trade market. Suppliers

used factoring to react to long payment setback by factoring their receivables when they needed cash

(EBA 2014). Factoring is a type of Receivables Purchase, in which suppliers of goods and services sell their discounted receivables to a financial provider. A key difference of factoring is that typically the financial provider becomes

When factoring is applied, suppliers sell receivables to collect fast cash. Thus, factors have to evaluate the buyer portfolio before gain entrée an agreement.

Dynamic Discounting (DD)

DD is another form of financing a supply chain and implies a solution in which the buyer pays the supplier early using excess cash. In return the supplier reduces the overall cost or provides the goods and services paid for at a discounted price. Yet, the buyer depends on the supplier if he grand's the discount meaning the discount is not static. This being said, there is little flexibility for the buyer. On the other side if the buyer does not pay right away the supplier loses flexibility. Clearly, the supplier has an advantage her as he benefits from an operating working capital reduction while the buyer

1. Supplier base

If a company considers implementing SCF it should evaluate its supplier base and determine those who meet the requirements to be on boarded. Here, the biggest suppliers should be the first to be contacted. A powerful tool that can be applied here is the 80/20 rule or Pareto Principle. The rule states that 80% of the output comes from 20% of the input. If you transfer this to suppliers, it means that 80% of goods come from 20% of suppliers. The Pareto Principle is a great way to prioritize. Furthermore, focal companies need to assess the contribution of each supplier and the impact of discounting the

accountable for managing the portfolio of the borrower and gathering the payment of the underlying receivables (Global Supply Chain Finance Forum 2016).

suffers an increase in his (Luca M. et al. 2016).

Implementation of Supply Chain Finance

When a company attempts to implement SCF it is important to analyses certain factors. Companies should take precautions and examine certain aspects in order to have a positive effect in the long run. SCF implementation requires careful planning in advance. It all starts with the focal company initiating a SCF solution and approaching a bank and/or technology provider. When the focal company has decided on a suitable bank and technology provider, the next step is to on-board suppliers. Here it is important to follow certain steps. The following are important for the focal company and the supplier as well.

contributing supplier. At last, the focal company should keep in mind that SCF needs to bring as much value to the supplier as possible in order to increase their interest. This can be done by analyzing the potential value based on the difference in credit rating between focal company and supplier. Figure 7 illustrates the core principles of such an analysis. The horizontal axis of the graph shows the credit rating of the suppliers while the left side indicates the capital cost rate of the suppliers. The right axis gives information about the total spend with all suppliers of that credit rating (de Boer 2015).

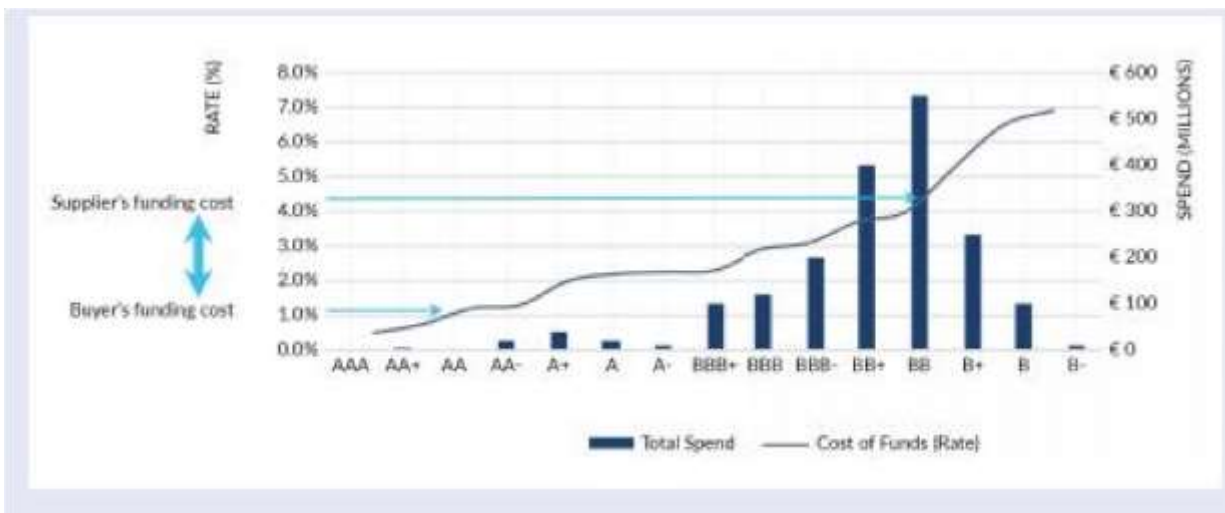


Figure 4. SCF Supplier Base Value Analysis (de Boer 2015)

1. Inter-company collaboration

In order to successfully implement SCF the collaboration of procurement, logistics, finance and treasury departments needs to be ensured. Collaboration encourages companies to connect with internal and external partners within a supply chain (Hofmann & Belin 2011).

2. Fee structure

The funding fee is important to consider and is made up of two elements. Firstly, the interest rate which varies from country to country. The three most well-known are Libor, Euribor and the Federal Discount Rate but there are also other country specific rates.

3. Limitations

The focal company should be in the clear about limits regarding the transactions to be financed. Banks set certain limitations that are binding when setting up a SCF.

The following need to be considered in the scope of limits:

- i. Payables must be free from off charge or security interest.
- ii. Payables may not be sold, pledged or transferred and need to be applicable to be assigned to the supplier.
- iii. There may not be any dispute, i.e. commercially, between the supplier and the

focal company.

- iv. A minimal value of payables to be financed needs to be established for the SCF contract.
- v. A minimum period of days before the payables are financed must be agreed upon.
- vi. The bank may appoint a facility limit.
- vii. Focal company and supplier should agree on a maximum number of payables submitted each month or each quarter.

This being said, it is important to choose the right bank with limits that fit the requirements of the focal bank.

4. Payments

When negotiating payments certain conditions have to be considered to make sure swift payments are verified. The focal company and its supplier have to verify if an online-platform, they use to upload the invoices for discounting, is needed.

The partnering bank has to clarify if the facility is committed or uncommitted. In order to have committed facility terms and conditions must be clearly defined by the bank (lending institution) and communicated to the borrowing company (focal company or supplier).

If the facility is uncommitted the bank will agree to make funding in general available for the borrower, but it does not obligate her to a clear amount of

money to be borrowed.

Furthermore, since trade is made globally, the currencies allowed for funding must be negotiated as well as the number of currencies available for funding. Aite Group (2014) provides a view question a company should consider when implementing SCF. In their case study they state that depending on the chosen legal instrument for collateral the supplier may have to act as a collection agent for the bank. That being said, some question needs to be answered before going further with the implementation of SCF.

- a. Is there an allowance to the supplier for such a service?
- b. Is any such eventual allowance part of the discount rate applied by the bank or accounted separately?
- c. Does the collection agent have to open a separate bank account?
- d. With what frequency do the collection agent transfer receipts to the bank?

At last, the supplier must communicate if there is the need to open up a special bank account in order to receive financing by the bank.

5. Dates

As already clarified before SCF can be set up with multiple suppliers and each supplier might have different payment terms. The focal company needs to analyze which supplier's payment terms can be extent the most. Furthermore, within the SCF process there are multiple steps and each step will trigger the next. It is important to determine the time needed for a supplier to access finance and how long a single SCF process, until the bank debit, takes. During this process there are dates to be adhered to by all parties involved.

The following dates need to be considered in this order:

- i. Original invoice date: Suppliers send original invoice to the focal company date

(including grace period for the supplier).

- ii. Approval date: The focal company approves the invoice received by the supplier.
- iii. Request date: The supplier requests the discount on the invoice to receive early payment.
- iv. Decision date: Bank approves or refuses the discount based on the information given to them.
- v. Response date: Suppliers accepts discount payment.
- vi. Fee payment date: Supplier might have to pay fees to the bank.

Refund date: At maturity the buyer refunds discounted amount to the bank. At this time, it is advisable also to verify whether there is a limit of days from this refunding date after which the focal company becomes delinquent (Aite Group 2014).

6. Costs

The cost structure is important for both the focal company and the supplier to calculate the investment and build up a business case for SCF. The costs will differ considering the bank, the platform provider and the credit rating of the focal company. Citing Aite Group (2014) and the expert interview with Volvo:

“Some of the costs associated with the implementation and management of an SCF program are not always easy to quantify in a large organization.” On the other hand, the structure of costs will mostly be the same. The four main categories of cost are:

- a. Monetized costs: costs installed within the fee structure itself.
- b. Employee time: time spent by employee to set up SCF.
- c. One-off costs: start-up costs.
- d. Recurring costs: repeating costs – monthly or annually.

On the other hand, both parties have to expect

additional costs for legal assistance such as auditors' fees for accounting analysis and advisory services to be applicable for different country laws if SCF programs expand globally. Along with these both parties should consider advisory and legal. In conclusion, Research linking SCM to SMEs is not as abundant as research linking SCM to larger firms. Most of the literature in the field agrees that despite the economic importance of SMEs, they face difficulties to efficiently manage supply chains and to become fully internationalized as part of global supply chains. Arend and Wisner (2005) researched whether supply chain performance was relevant to SME corporate performance. They run a survey among over 420 SME managers in the US, Mexico and Europe. They concluded that SMEs do not implement efficient SCM as deeply as large enterprises, SMEs received fewer advantages from their partnerships, SMEs did not emphasize strategic focus areas to engage in SCM, and SMEs tended to be more shortsighted in partner selection rather than more comprehensive (Arend and Wisner 2005). Even though the SCF market is still evolving there is some showable literatures available in the form of reports, working papers, articles, guidelines and other readable information. Across these different types of literature and information, the definition of SCF differs. SCF is worth research as supply chains are an integral part of most business and is highly essential to an organizations success. Research in the field of buyer supplier relationship management provides strong fundamentals for the definition of the SSCF framework, which heavily relies on collaboration among all actors in the chain to meet the common objective of enhancing sustainability performance. The findings hint at the strategic selection of suppliers, joining forces in the definition of common sustainability goals, and maintaining an open dialogue on best practices, rather than simply imposing and evaluating.

The literature review shows that i) working with sustainable suppliers not only mitigates reputational

assistance to establish a common ground on issues such as tax withholdings, VAT, deductions, charges, translations of documents and fees (Aite Group 2014).

risks, but also enhances the financial profile of companies' supply chains; ii) although more managers in large corporations identify the adoption of sustainability as an important tool to increase brand value, mitigate risks and enhance revenues, questions remain about the implementation of such strategies, especially with regards to how to obtain information from second tier suppliers and beyond; iii) engaging with SME suppliers and providing the right incentives is a necessary element to help them comply with higher sustainable practices.

3. Material And Methods used

In this chapter, the type of research is presented together with the research approach. The research approach's connection with the overall process and data collection is explained to give readers an understanding of how results and conclusions are derived. Furthermore, the chapter aim at providing a critical evaluation of the methodology and present potential shortfalls, in order for the reader to have a nuanced approach toward the thesis "A case study is an empirical enquiry that (1) investigates a contemporary phenomenon within its real life context, especially when (2) the boundaries between phenomenon and context are not clearly evident" (Yin, 2003). As a case study considers the contextual factors which limits the extent of the analysis, it provides a comprehension of indistinct and disordered issues allowing for in-depth insights. The strength of the case study is that it addresses 'how' and 'why' questions within the course of research (Yin, 2003 and Ellram, 1996).

Since this thesis aims in understanding and explaining the phenomenon of SCF an RF, a qualitative analysis is a natural choice as the fitting research method. Besides the existing research provided for this topic it seems logical to include an

empirical section. The empirical section consists of expert interviews and aim to provide a deeper understanding of the phenomenon of SCF (Johnson & Christensen, 2014).

The goal for each research is to conduct accurate and reliable results. Reliability can be measured by which extent the thesis offers reliable and objective results and if the results are established independently by the researcher. Furthermore, the validity of the qualitative data found is a vital measurement. This is because qualitative data analysis in this thesis is based on interviewees subjective opinions on the matter and their answers could easily vary. Additionally, qualitative research is sometimes criticized by the fact that it involves some risks related to the interpretation of the researcher and subjective. That being said, problems may arise when the interviewee is not sharing honest opinions or when the question is not understood clearly and thus the reliability may suffer. However, qualitative research offers the possibility of in-depth motivations and it allows the interviewees to share their feelings. To conclude, qualitative research serves a very different purpose than quantitative research (McDaniel & Gates, 2012).

3.1 Quantitative, Qualitative, Inductive and Deductive approaches

3.1.2 The Inductive Qualitative Path

Inductive qualitative approach is used with to understanding the phenomenon subject to research in its own terms. According to Golicic ET. al. (2005), researchers adopting a qualitative approach take interest in the experiences from the informant's perspective through first-hand learning, based on the assumption that "knowledge is in the meaning people make of it; knowledge is gained through people talking about their meaning" (Creswell ,1998). As a result, the first step with the qualitative approach is data collection where the researcher observes the phenomenon in its natural setting, typically by several field visits. The second

stage is to describe the phenomenon from the informants' point of views. The descriptions are generated by examining multiple sources and asking open-ended questions (Hirschman, 1986) where the research and data design evolves as the researcher gets a better and more holistic understanding of the phenomenon.

The next step is generating a substantive theory from the descriptive data. The qualitative data is analyzed inductively, using the detailed findings in the data to generate a general perspective (that can be called categories, themes, dimensions, codes etc.). A substantive theory is developed by capturing the dynamic nature of the phenomenon, allowing the researcher to a deeper understanding of the phenomenon and exhaustively present a single idea (Creswell, 1998 and Golicic et. al., 2005).

3.2 The Deductive Quantitative Path

The quantitative deductive path starts with a literature review in order to specify relevant variables and anticipated relations in a conceptual framework (Bickman & Rog, 1998 Golicic et. al., 2005). Based on the findings, a formal theory is created in the next step that should be able to generate predictive outcomes that can be tested with real-situation data. Before the data is collected and applied, the researcher forms a hypothesis based on the theory that is generated through a deductive approach, beginning with the general view and moving to the detailed data and findings. The third step, data is collected through designed measurement instruments in experiments or field surveys with the purpose of verifying the formal theory.

Study Design: Study designs are the set of methods and procedures used to collect and analyze data in a study.

3.3 Research Process

There are two levels of case studies in this thesis that are interrelated as findings within the respective level affect the outcome for both levels. The first is the case study considering the specific buyer-centric SCF solution in which its relevance and a framework for evaluation and implementation is presented. To obtain a balanced result, the inductive qualitative approach is combined with the deductive quantitative approach. The formal theory developed with the deductive approach is verified with the substantive theory from the inductive approach. The findings are combined to create an initial framework. The analysis section provides a compilation of the formal and substantive theories.

3.4 Presentation of SCF practitioners

SCF practitioner 1: Previously responsible for the SCF program at a large company in the automotive industry. The company was one of the first to adopt SCF. Suppliers are not being on-boarded at a high pace. SCF practitioner 2: SCF manager at a large Malawi firm in the engineering and manufacturing industry. Has been involved with the pre-study, implementation and program management. The company SCF program went live about a year ago. Suppliers are still being on boarded at a high pace.

Presentation of Financial Institutions

Bank 1: One of the African largest bank (standard Bank).

Bank 2: One of the largest banks with a strong market position in Malawi (NB)

Presentation of Academicians

Academician 1-3: One of the Public Universities in Malawi (CU)

Academician 1-3: One of the private Universities in Malawi (BIU)

The literature review is combined with semi-structured interviews with persons involved in key areas from a supply chain finance context, is the foundation of the framework, in which one should

be able to determine whether a buying company satisfies conditions indicating that a SCF solution can improve their business. In-depth interviews were conducted with two large Swedish firms that have implemented SCF, as well as discussions with a few additional Nordic firms. For the literature review and first-hand empirical observations, categorization is conducted to present the areas covered. This forms the basis in understanding relevant key aspects and to further elaborate on these.

3.5 Research validity

Creating a holistic framework for a SCF initiative's project process and for evaluating the suitability for a buying firm, is the prospective of the research process. For the framework to be generic to a certain extent, the research accounts for validity, reliability and representatively, as suggested by Rosengren and Arvidson (2002). By using several sources of data and multiple method of data collection it is ensured that the thesis' key propositions are consistent with previous results, and from the different perspectives that are relevant.

The main sources of data, allowing for data triangulation are the following:

- Academic literature
- Trade publications
- Consultancy reports
- Reports from SCF providers
- Interviews with SCF providers
- Interviews with SCF practitioners at buying firms

4. Results

This chapter will provide all empirical findings gathered by qualitative interviews with practitioners and researchers. Before turning over to the evaluation of the interviews, the process of information collection and the evaluation process will be explained. Furthermore, the interviewees

will be introduced and the short comings of the interviews will be assessed.

4.1 Interview setup

The surface of SCF is yet to be fully researched in order to reach a maturity status. Taking this into account, the proper approach to accumulate empirical input for this thesis are in-depth interviews. In-depth interviews are useful when detailed information about a certain topic is needed or it is needed to explore a certain topic in depth (Boyce & Neal 2006).

With respect to the aim of these interviews it was vital for the interview process to set up the right approach. There are different approaches to execute such qualitative interviews: structured, unstructured and semi-structured. Unstructured interviews were ruled out at first as no questions will be prepared prior to the actual interview. This approach will not give any reliable and comparable data after all. Another approach which will shortly considered is the semi-structured interview approach. In this approach some questions are prepared prior to the interview but there is room for questions arising while the interview goes on. Taking this into account, the structured interview approach suited best as all questions are pre-determined and handed to the interviewees beforehand, assuming the chosen subjects will prepare for the interview date in advance. Some other questions might have been asked as the interviews went on, but these findings will not be presented in this thesis if not comparable to other

findings (Dudovski 2017). Since SCF has not matured this serves the goal of the thesis to include different inputs and attempt to conclude these findings into a well-rounded definition and give a productive input for both academia and practitioners.

4.2 Participants

The 10 participants for these interviews were carefully selected by the following criteria developed in order to accumulate quality interviews. The internet served as a basis in order to research certain websites such as Prime Revenue and Supply Chain Finance Forum. The main source here was the Supply Chain Finance Forum and its past events. People from the academic and business side meet up to share their knowledge and innovation about the SCF landscape. All interviewees were either practitioners who worked within a company applying SCF and RF solutions or academics who research the field of SCF and RF. All practitioners chosen for the interview were at least in a managing position within their company. The interviewees were chosen so that different point of views would be covered but most importantly the interviewees needed to be experts in the field of SCF to secure the reliability of the findings. All interviews were held in English via Skype call and took about 50 minutes.

Table 4 : PARTICIPANTS

The interviewees			
Practitioners		Academics	
Role	Company	Role	University

Treasury Manager	National Bank of Malawi	Brian Kampanje (Associate Professor)	Blantyre International University
Commercial Finance Manager	Standard Bank of Malawi	Charles Chanthunya (Senior Researcher)	Catholic University of Malawi
Global Supplier Risk Manager	Consumer electronics of Malawi	Richard Madi(Lecturer)	MIMU
Cooperate, Manager, Station Manager	FDH Bank MRA		
Cooperate Affairs Manager	Old Mutual Malawi	Friday Kumitengo Associate Lecturer	MCA

4.3 Analysis of Interview findings

Interviews revealed that there are still different views on SCF when comparing the understanding of practitioners and academics. Some of these could be explained by the fact that the academic side looks at SCF from a more rational point of view while practitioners always place their company first. Practitioners answered questions more precise while academicians had broader answers to questions. It is not unusual that academic-practitioner relationships experience gaps between theory and practice or similar terms.

First, asked about the definition of SCF reverses factoring scheme, most practitioners (2/3) defined SCF more as a tool that is provided, and it is up to the company how to use this tool effectively. Academics consider it more of a solution that can optimize flows and the allocation of financial resources as well as ratios (operating working

capital, cash flow, CCC) and the collaboration of supply chain members to increase efficiency, effectiveness and the sustainability of the entire supply chain network. One of the academicians interviewed agreed that SCF and reverse factoring can be seen as a solution. As a matter of fact, all interviewees agreed that SCF can be a factor for increased sustainability. Yet, academicians administer the factor of sustainability at a higher degree of importance. Before turning over to the next question, it is necessary to examine the difference between a tool and a solution. A tool is a singularly-focused application that does one thing while a solution attempts to solve multiple problems within an organization. That being said, SCF and RF must be considered a solution as it directly solves problems that affect an organization's goals. More specifically, it optimizes financial resources and ratios within a supply chain network.

Implementing a solution follows a path that should be guided by best practices. Solutions, once

developed, should be reusable and applied to reduce work and maintain consistency in future projects.

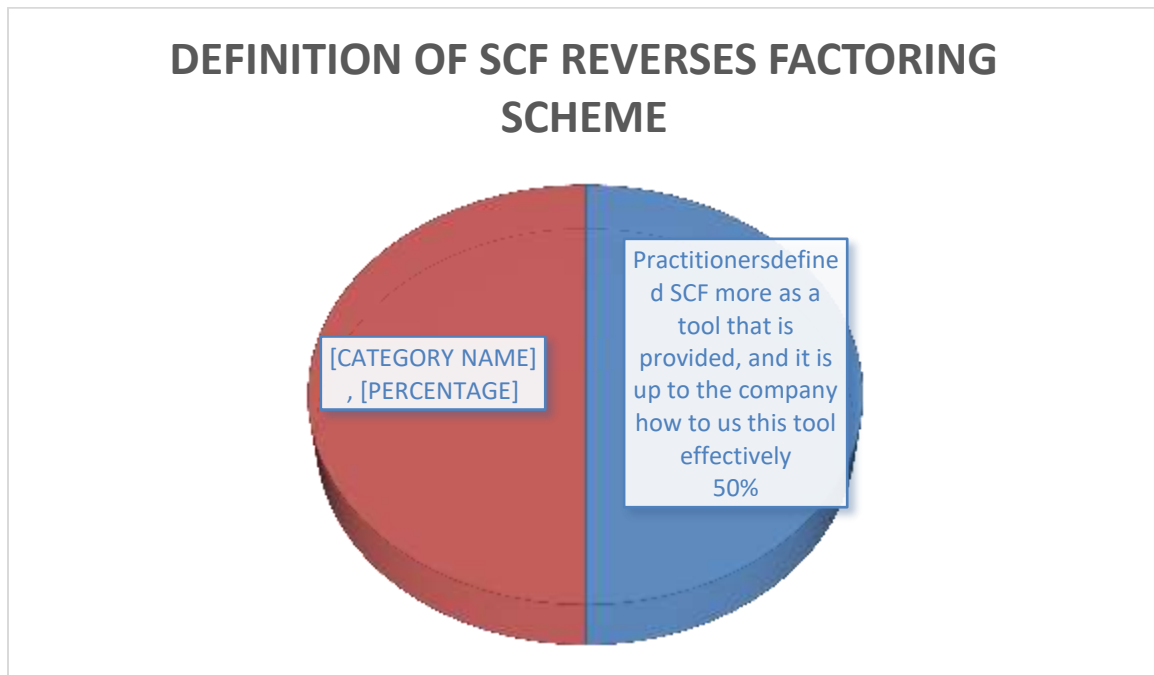


Figure 5. Definition of Supply Chain Finance

Next, the interviewees were asked why the SCF reverse factoring scheme has gained such popularity over the last years. Here, it seemed that all interviewees agreed on the same reasons (scarcity of liquidity, financing problems for SMEs).

The most popular reason among the interviewees was that it is a great way for multi-national companies to access funding for its suppliers, including SMEs which have restricted access to financing since the credit crunch in Europe. Furthermore, the interviewees think that SCF

reached a maturity stage where all parties (Focal Company, supplier, and financial providers) realized that it can help each actor in the process, making it a “win-win-win” situation. One practitioner pointed out that another reason can be the increased visibility of transactions when implementing SCF which is in line with the academic point of view. A result of the visibility effect is that financial providers are under more pressure to price correctly and not charge suppliers higher margins.

Table 5 : Reasons Why The Scf Reverse Factoring Scheme Has Gained Such Popularity Over The Last Years

REASONS	PRACTITIO NERS	ACADEMICI ANS
scarcity of liquidity, financing problems for SMEs	5/5	5/5
it is a great way for multi-national companies to access funding for its suppliers,	3/5	4/5
SCF reached a maturity stage where all parties (Focal Company, supplier and financial providers) realized that it can help each actor in the process	3/5	2/5
Increased visibility of transactions when implementing SCF which is in line with the academic point of view	1/5	-

When asked about the industries where SCF is most effective answers differed. Some interviewees said that companies within the consumer goods and telecommunication industry have a high potential to implement SCF. Others have only focused on the country where SCF can be implemented. This led to another great observation that was not included in

the questionnaire before that not only the industry but also the country has to be a requirement if SCF can be considered. Here the argument was brought up those countries with different currencies and/or high inflation rates are less interested in SCF because it leads to higher interest rates followed by higher costs.

Table 6: Which Industries Were Scf Most Effective?

ANSWERS	PRACTITIONERS	ACADEMICIAN
Companies within the consumer goods and telecommunication industry have a high potential to implement SCF	Two out of five practitioners responded to that answer	Two out of five academician respond to that answer
Countries with different currencies and/or high inflation rates are less interested in SCF because it leads to higher interest rates followed by higher costs.	3/5 practitioners respond to that	2/5 practioners answered that

Next, people were asked what the main benefits for buyers and suppliers are. Here, both sides agreed on the benefits mentioned in the chapter “*Supply Chain Finance Benefits and Risk*”. Especially

visibility was of great importance for all interviewees. A supply chain which is totally visible can be tracked perfectly. The flows of finance and goods can be traced back to its origin and each

supply chain member would have all information at any point of time.

When asked about the risk and challenges both parties replied and covered what is already mentioned under “Risk”. Furthermore, interviewees added the risk of payment if invoices are not approved within a certain time period (10-14 days).

The supplier will not be able to take advantage of the discount payment after all.

A question which received some different answers was if SCF can mitigate the risk of foreign exchange. Overall, the answer was common that it does not mitigate the risk of foreign exchange. However, one practitioner saw a slight possibility and argued: “Forward positions could be shortened and rather than hedging for six or twelve months waiting a shorter time period to reduce the currency risk.”

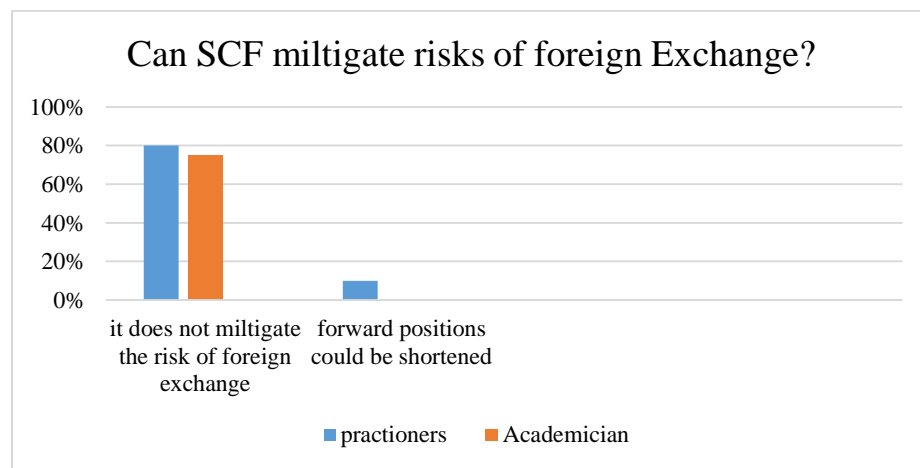


Figure 6. Can SCF Mitigate risks of foreign exchange?

When asked for the reasons why SCF and RF are implemented all participants had mostly the same answers but different priorities. Everyone mentioned that companies agreed on the facts that companies implement SCF to improve operating

Continue business while academics emphasized social responsibility. The social responsibility argument is especially interesting. Companies might implement SCF with certain requirements the supplier has to fulfil, such as meeting certain work condition standards. This is especially important for suppliers in developing countries where some standards are underdeveloped. One practitioner raised the thought that there is actually no reason at all to implement SCF and it is rather a question of

working capital, decrease CCC, increase DPOs for the focal company and decrease DSO for the supplier. Both parties (academician and practitioner) highlighted that SCF could be a regulatory requirement in order what a company’s objectives are and do these objectives fit to the SCF as a tool. Interviewees had different thoughts about a benchmark to be met when a company wants to implement SCF model. On the one hand, some interviews gave importance to the financial provider a company chooses as a partner (e.g. some financial providers require at least \$1 billion purchase value or at least \$5 million turnover). Others mentioned the actual take up from the supplier and if the supplier base is big enough. Everyone agreed that the implementation process

until the first supplier is on-boarded takes around 6 months. After the first supplier is on board it usually shows a good example which makes the on-boarding of further supplier to the SCF scheme easier.

Also, participants were asked what they thought were their top three key performance indicators (KPIs). Here it was quite interesting that the answers from practitioners differed within. One practitioner mentioned the portion of sales taken early and the level of profit. While the others focused more on reputation, CCC and the relationship between focal company and supplier. Academicians on the other hand prioritized the number of suppliers eligible for a SCF reverse factoring scheme, CCC and cash covered.

At last, interviewees were asked about future trends they see evolving in the next years. In the short-term, SCF will become more popular in developing countries as multi-national companies provide RF to suppliers but only if they respect social and environmental practices. What was interesting to

find out, all of them joined the thought that working capital optimization will not be a considerable growth factor rather than how SCF can be optimized to make a supply chain more sustainable. Furthermore, everyone (practioners and academicians) agreed that block chain will play a big part in order to track the product flow and make trade even more visible for all parties involved. An interesting thought by academics was a so called ‘SCF House’ where a financial provider does not finance a specific company but instead develops and takes control over the entire supply chain. This is motivated on the idea of moving a company (e.g. company XY) further down the supply chain. Based on the order of XY, it may move down to a 3tier or 4tier supplier. The financial provider functions as the buyer of material and goes upstream the supply chain (paying value added for each supplier) until it sells the product to XY. Company XY will then pay the financial provider for the financing service. Overall, it can be said that the financial provider turns into the owner of goods within the supply chain network if total visibility is given (Gelsomino 2017).

Table: Future Trends That Will Be Evolved In The Next Years

ANSWERS	PRACTITIONERS	ACADEMICIAN S
working capital optimization will not be a considerable growth factor rather than how SCF can be optimized to make a supply chain more sustainable	All the practitioners that were interviewed responded to that which is 5/5	Both academicians responded to that answer.100%
block chain will play a big part in order to track the product flow and make trade even more visible for all parties involved	All the practitioners responded to that	Both of the academician agrees to that answer.

4.5 Data Analysis

The analysis of the SSCF Framework Pillars

Following the three main pillars of the SSCF framework portrayed in Chapter 2, let’s now analyze how the already existing infrastructure in

Malawi could be enhanced and what elements are still missing for full SSCF framework implementation.

Teamwork and Resource Rationalization

Standard Bank FIs are already performing the on-site supplier verification process that it is costly and cumbersome to be performed by large corporate buyers. FIs are already working with their borrowers to implement corrective action plans when sustainability in compliances are present. FIs are also gathering and tracking sustainability-related information integrated with other credit risk factors, which could be useful for large buyers. Potential SSCF upgrades. In order to fully benefit from resource rationalization by FIs, some enhancements would need to be done with regard to the training of FIs' internal staff; for instance, FIs' personnel could not only coach incompliant borrowers on remediation plans, but also, actively engage with suppliers to promote better social, environmental and economic policies in their practices.

Transparency of Information

FIs are already playing the role of information transparency enhancers with regards to financial information by having contact with up to the fourth link in the chain. Potential SSCF upgrades. In order to fully benefit from information transparency by FIs in the context of the SSCF framework,

Traceability and Alignment of Incentives

In an informal and indirect way, FIs are already penalizing sustainability-incompliant suppliers by denying access to credit. Likewise, FIs are also offering better financial conditions to those suppliers with less credit risk. These incentives are not however structured in a formal program whereby suppliers would know upfront which levels of sustainability standards they should meet in order to benefit from better financial conditions in their access to FIs' funding. Potential SSCF upgrades: In order to fully make the most of alignment of incentives by FIs in the context of the SSCF framework,

The Challenges in Context

Let's analyze each of them in context:

Driver from buyers

Standard Bank has definitively been exercising its corporate leadership to engage with its suppliers. By using its purchasing power, it has influenced suppliers to participate in the online financing platform. This means that by the same token, Standard Bank could exercise its influence to engage suppliers to adopt more sustainable practices. As a matter of fact, Standard Bank is already collecting suppliers' self-reported information on sustainability aspects through its SMS system, although as explained above, this system has not achieved its full potential yet. Integrating both systems by letting FIs be the information collectors could generate efficiencies.

Robust technology platforms

The in-depth interviews confirmed that Standard Bank FIs are already operating with management information systems that can integrate sustainability and financial-related information. These FIs operate however mainly in a local context. Further research with regards to the difficulties to deal with multi-country supply chain financing particularities is needed. Different regulatory aspects related to electronic invoices or electronic settlement of accounts might come into play. In that case, technology should be adapted and additional technological enhancements should be introduced.

Industry and regional expertise

Research of primary sources confirmed that FIs' ESMS are indeed an important leap forward in assessing and managing sustainability risks of suppliers; however, there is still room for progress. Even if these questionnaires gather first hand loan officer on-site verified information, they still rely on qualitative information not necessarily related to international sustainability reporting frameworks such as that of the Global Reporting

Initiative described in previous chapters. Furthermore, they are not industry-focused yet. They require general information regardless of the specificities of each industry. For instance, particularly polluting industries such as leather treatment or chemical production might require additional specific information and expertise to implement remediation plans. For a full implementation of the SSCF framework, FIs could consider hiring and training a sustainability-expert workforce, who could provide technical support to reinforce the coaching and supervision already performed by loan officers.

SME's lack of sophistication

The field research did not confirm that the lack of sophistication of smaller suppliers could be a detriment to the implementation of the framework. The two interviewed banks already deal in their portfolios with non-sophisticated companies. Furthermore, in order to be a supplier of Standard Bank, suppliers need to at least register in their platform, which requires a fiscal identification number. This implies that even if smaller, suppliers in the program need to have a certain degree of formalization. However, this uniqueness might Who are experts in practice? Due to the fact that the data consists of the interviewees' experience with SCF and that all managers have had close encounters with SCF the empirical research is valid. The combination of a recession that reduced tax revenues and increased social-welfare payments for unemployment really weighed on government

As result, globally, non-financial corporate debt has grown even larger than sovereign debt, reaching \$ 66 trillion (Lund and London 2018). Looking back, Innovations that went beyond regulation and, to some extent, beyond the ability of banks to manage risk, and there was not enough capital. So, the shock

4. Conclusion

This chapter ties up the introduced theory part and

probably change in other contexts. Smaller emerging economies with less sophisticated regulatory and supervision environments might face this pressing challenge. On the other hand, as smaller informal companies start receiving financing from the formal financial sector, their incentives to join the formal economy and adapt to a more demanding business setting, are more persuasive.

4.6 Limitations of the empirical result

The empirical part of the thesis was supposed to include 12 interviewees from practice and academia. That would have secured perfect reliability by having a good sample size. However, even though all 12 interviews were scheduled by the beginning of December 2021, two participants did not respond to a reminder email and did not participate at the interview. Since the interviews were not able to be held as originally planned, the thesis ended up with a smaller group of interviewees. Yet, it is assured that the data provided from 10 interviews had significant quality input and that the attention given was even greater. Furthermore, the sources for my interviews were either an expert in the field of research or managers

budget balances? And governments around the world, in one form or another, have provided financial support to the banking system and other critical industries. All of this has made governments more in debt than ever. But at the same time, companies were borrowed almost as much money as governments.

we can say that the crisis started with a bubble in the real estate market, and that's bad. It has already happened. But what made it different is that there were a lot of financial absorbers were not there in the global financial system

connects it with the empirical findings. Subjects that might be worth researching in the future will be discussed. Finally, the thesis attempts to define the

SCF in a way that can be adopted by the industry and academia. This thesis introduced the different definitions of Supply Chain Finance. It gave an understanding on how researchers look differently on the topic of SCF and RF. The thesis evaluated the development of SCF within SCM, its structure and model, implementation process and the benefits and risks.

The main focus was to find an overall definition which can be adopted by practitioners as well as academics. Having studied the scope of SCF it is clear that this approach is an integral approach to finance a supply chain. As the financial crisis erupted and providers of online platform expanded their services to such approaches, SCF has gained recognizable interest from all types of industries. As deeply investigated throughout this thesis, RF is one of these services and the most popular. SCF and its accompanying RF solution is an arrangement between the focal company (buyer), its supplier (or multiple suppliers) and a financial provider serving as a middle man. The financially stronger buyer facilitates low-cost capital (credit rating) by accepting and transferring the receivables of his supplier to a financial provider. The gap within SCF is the missing definition suitable for both the academic and practice side. This thesis aims to contribute to filling the gap.

To approach this issue the thesis was set up as follows. First, a historical background of how SCF became popular in the age of global trade and the financial crisis 2009 was provided. Secondly, it was stated how financial flows became a vital point for organization to integrate these flows and metrics in their SCM. Subsequently, it was narrowed down to SCF and investigated the scope in depth by examining the process, its implementation process, its benefits and risk. This was done by developing figures and models to illustrate SCF and RF solution. In order to compare the theoretical findings and definitions with the industry understanding of SCF, qualitative interviews were

conducted. In specific, 3 interviews were conducted with managers from the industry while 2 interviews were done with academics. In order to develop a definition, the research questions have to be answered. The main question to answer is if the theory of SCF and its implementation process and benefits tally with the findings of the interviews and if those helped develop a definition suitable for both parties. To support the main question, answer will be given to the other questions (1.4 Research Questions) which will lead up to the first question asked. This way, it can be narrowed down to a definition attempt which supports academics and practitioners.

What are reasons for a buying firm to implement SCF?

Having analyzed the definitions it can be understood that SCF is mainly a solution to optimize working capital (more specifically operating working capital). Yet, in the interview's participants did emphasize the fact that working capital optimization is an effect of SCF solution but not the only reason by far. There are various reasons for a buyer (focal company) to implement SCF. PWC's Barometer shows that supply chain stability, liquidity needs for suppliers and enhancing the buyer-supplier relationship are among the top reasons to implement SCF as well (PWC, 2017). This confirms is confirming the observations made in the interviews. Taking this into account, it is to conclude that definitions simply including working capital optimization are incomplete. Furthermore, definitions that define SCF as a solution to optimize financial flows are more appropriate but are still incomplete to a certain degree.

How does a SCF implementation work and what affects will it have?

What aspects must be considered before implementing it?

What are general guidelines and how must the process be managed?

The purpose of this research question including its

sub-questions was to support the second question and the main question. The implementation process is clearly defined in this thesis (Implementation of Supply Chain Finance). Furthermore, specific KPIs were suggested by all interviewees. Lastly, by analyzing risks and challenges in both sections (theoretical and empirical part) this thesis illustrates a good overview on how to manage a SCF process. All these questions led up to the question if the theory connects with the practical experience. After evaluating SCF from multiple angles it can be said with certainty that both have a similar view on SCF and how to implement it. But it may be argued, that the overall definition still has differences. For this analysis the focus needs to turn over to the final conclusion.

5.1 Final Conclusion

All definitions presented in this thesis helped finalizing the definition presented in this thesis. Especially Wuttke et al. (2013) and de Boer (2015) definitions were close to a definition that can be adopted by both practitioners and academics. Wuttke et al mentions the upstream perspective and that SCF improves visibility and control. De Boer includes the involvement of at least two primary supply chain members as well as the sustainability improvement through SCF. Including the explicit term “supply chain network” and that SCF is a solution to be implemented is vital. Including the term “supply chain network” emphasizes the collaboration of all members (focal company, supplier and the bank). Finally, this thesis presents a

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definition that takes into account the feedback from practitioners and academics but also the evolved supply chain understanding that a supply chain must be seen as a network.

5.2 Future research

This thesis focused on investigating the theory of Supply Chain Finance and Reverse Factoring while comparing it to qualitative data based on expert interviews. However, further research on the topic by involving a broader base of interviews including company data should be encouraged. This is because we still see a gap between academia and practice. If interviews in a broader range including company data would provide large-scale and interesting data that can be analyzed in the future. Another interesting topic would certainly be to investigate the options of the cooperation of sustainability versus Supply Chain Finance within the supply chain network. Here it would be interesting to examine the actual input in the long run; Supply Chain Finance can have on the sustainability of a supply chain network. Future researcher could also study the impact block chain can have on supply chain networks considering the tracking of products through the entire end-to-end chain. At last, it could be investigated if SCF and the fact that it can improve working capital ratios are beneficial for companies in a world of zero or even negative interest rates. Here it could be researched how companies would adjust to this kind of issues and how cash flows could be change

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