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Master in Management Program

**FINANCIAL SUPPLY CHAIN MANAGEMENT MEASURES IN
DYNAMIC ENVIRONMENTS: SUPPLY CHAIN FINANCE AS
AN APPROACH TO FREE UP LIQUIDITY IN RUSSIAN
SUPPLY CHAINS**

Master's Thesis by the 2nd year
student

Concentration – International
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Management

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ЗАЯВЛЕНИЕ О САМОСТОЯТЕЛЬНОМ ХАРАКТЕРЕ ВЫПУСКНОЙ КВАЛИФИКАЦИОННОЙ РАБОТЫ

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<p>Данная работа является вкладом в развивающуюся область исследований по программам финансирования поставщиков (Supply Chain Finance) - инновационным финансовым инструментам, позволяющим кооперировать усилия участников цепочки поставок по управлению финансовыми потоками. Исследование фокусируется на программах финансирования поставщиков (в частности, на реверсивном факторинге, как наиболее широко используемой разновидности этого инструмента) в России. Цель диссертации - выявить проблемы внедрения и оценить потенциал развития программ финансирования поставщиков в российских цепях поставок.</p> <p>В исследовании ставятся следующие вопросы:</p> <ol style="list-style-type: none">(1) Как факторы внешней среды влияют на уровень использования программ финансирования поставщиков в России?(2) Как российские компании внедряют программы финансирования поставщиков (в частности, реверсивный факторинг)?(3) Как внедрение программ финансирования поставщиков (в частности, реверсивного факторинга) влияет на различных участников цепей поставок? <p>В данном исследовании используется метод множественного кейс-стади: проводится кросс-кейс анализ 3 крупных российских компаний FMCG сектора.</p> <p>Полученные результаты показывают, во-первых, что программы финансирования поставщиков являются подходящим решением для увеличения ликвидности и снижения рисков в российских цепях поставок, несмотря на внешние и внутренние сложности внедрения. Однако при текущем уровне использования данного инструмента в России упускаются значительные потенциальные финансовые выгоды.</p> <p>Во-вторых, основываясь на выявленных в ходе кросс-кейс анализа проблемах внедрения, выдвинуты 5 блоков гипотез, и на их основе составлена модель внедрения программ финансирования поставщиков для российских цепей поставок. Данная модель в дальнейшем используется для разработки практических рекомендаций для различных групп стейкхолдеров (государства, банков, крупных компаний) по использованию и расширению потенциала программ финансирования поставщиков в России.</p>	
Ключевые слова	программы финансирования поставщиков, supply chain finance, реверсивный факторинг, финансовое управление

ABSTRACT

Master Student's Name	Zubova Victoria Olegovna
Master Thesis Title	Financial Supply Chain Management measures in dynamic environments: Supply Chain Finance as an approach to free up liquidity in Russian supply chains
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<p>This research is contributing to the emerging area of Supply Chain Finance (SCF), an innovative financing solution for supply chains that facilitates collaboration among partners in management of their financial flows. In this study we provide an early step in investigation of SCF instrument (particularly, Reverse Factoring as its most widely used form) in the context of Russian environment. The purpose of the thesis is to identify implementation challenges and requirements and to estimate potential for future development of SCF in Russian supply chains.</p> <p>The study addresses the following research questions:</p> <ol style="list-style-type: none"> (1)How does external environment influence the level of application of SCF practices in Russia? (2)How do Russian companies implement SCF programs (Reverse Factoring in particular)? (3)How does implementation of SCF (Reverse Factoring in particular) affect different stakeholders in Russian supply chains? <p>For this exploratory research the multiple case study method is used. We conduct analysis of external environment followed by cross-case analysis of 3 large Russian FMCG companies. Firstly, our findings demonstrate that SCF is a valid instrument for boosting liquidity and lower risks in Russian supply chains, despite internal and external implementation challenges; however, with current level of SCF application substantial potential financial benefits are wasted now. Secondly, based on implementation challenges, derived from cross-case analysis, 5 sets of propositions on SCF implementation are posited and integrated into the newly-created framework of SCF implementation in Russian supply chains. Resulting framework is a basis for our practical recommendations for different groups of stakeholders (government, banks, and large companies) on how to exploit and extend potential of SCF on the Russian market.</p>	
Keywords	supply chain finance, reverse factoring, financial supply chain management, emerging markets

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The List of Abbreviations

AFC	Association of Factoring Companies
AP	Accounts Payable
AR	Accounts Receivable
CCC	Cash Conversion Cycle
COGS	Cost of Goods Sold
DIO	Days Inventory Outstanding
DPO	Days Payable Outstanding
DSO	Days Sales Outstanding
EDI	Electronic Data Interchange
EDS	Electronic Digital Signature
FMCG	Fast Moving Consumer Goods
FSCM	Financial Supply Chain Management
SCF	Supply Chain Finance
SME	Small and Medium Enterprises
VAT	Value-Added Tax
WACC	Weighted Average Cost of Capital
WC	Working Capital

INTRODUCTION

The main focus of Supply Chain Management for a long time was on optimization of physical and information flows in supply chains, while importance of financial flows was often overlooked. However, nowadays companies pay more and more attention to coordination of financial supply chain, as liquidity and working capital control are crucial for sustainable operations of supply chains. This has led to creation of new financial solutions for supply chains, and **Supply Chain Finance (SCF)** is recognized as one of the most promising instruments. However, still the usage of SCF practices is limited and the topic is uninvestigated in academic literature.

SCF from the broad perspective can be defined as a set of Accounts Payable (AP) -centric and Accounts Receivable (AR) - centric financial instruments and practices for optimizing working capital and boosting liquidity of supply chain by creating collaboration among supply chain partners. In the narrow sense, the term “SCF” is often used as an equivalent of Reverse Factoring, one of the most widely used SCF instruments. Especially interesting is to look at SCF, particularly at Reverse Factoring, in the context of emerging markets, because on these markets the problem of lack of liquidity and access to capital for suppliers, which are very often represented by SMEs, is the issue of pressing importance nowadays.

Therefore, taking into account growing popularity of SCF and lack of researches in this field, the purpose of this study will be to identify challenges and requirements for implementation of SCF programs in Russian supply chains and estimate potential for further development of SCF in such environment. The research will be primarily focused on Reverse Factoring as the most widely used type of SCF.

Consequently, the paper addresses the following research questions:

1. How does external environment influence the level of application of SCF practices in Russia?
2. How do Russian companies implement SCF programs (Reverse Factoring in particular)?
3. How does implementation of SCF (Reverse Factoring in particular) affect different stakeholders in Russian supply chains, e.g. buying companies and suppliers?

Taken into account the exploratory nature of the research, a multiple case study approach is to be used. So, the object of the study is Russian companies, which have implemented or are in the process of implementation of SCF (Reverse Factoring) solutions.

This study will contribute to academic literature in the emerging area of SCF, as well as give understanding on the suitability of SCF solutions for Russian supply chains and identify potential improvements necessary for Russian external environment. Moreover, recommendations for companies will be given concerning the implementation of SCF practices.

The rest of the paper contains the following parts. Chapter 1 provides a literature review on areas of Financial Supply Chain Management and Supply Chain Finance, finalizing with identification of research gap, formulation of research problem and research questions. Chapter 2 covers the methodology of the study, including description of data collection for all steps of the research. Chapter 3 is devoted to the analysis of the macro-environment and estimation of maturity grade of SCF (Reverse Factoring) solutions on the Russian market, thus covering the first research question. After looking at the external environment, in Chapter 4 we will look at particular cases of SCF implementation and make a cross-case analysis, from which answers on the second and the third research questions will be found. Finally, we conclude with summary of the findings, practical recommendations for SCF application in Russian supply chains, and discuss limitations of the study and suggestions for future research.

CHAPTER 1. STATE OF THE ART OF SUPPLY CHAIN FINANCE

1.1. Financial Supply Chain Management and its importance in global supply chains

For a long time researchers and practitioners were focused mainly on the physical flow of goods in supply chains. Such areas like inventory management or transportation cost management, which are directly connected with the downstream flow of goods and materials, were explored widely. For now we have reached significant improvements in controlling and optimizing physical and information flows in global supply chains by implementing various innovations. Just few successful cases to illustrate the progress are implementation of barcodes system and RFID by Wal-Mart (Lewallen, 2004), execution of postponement strategy by HP (Kopczak & Lee, 2004), application of just-in-time concept to vendor managed inventory model by Barilla Company (Hammond, 2008).

At the same time, financial flows are as important in supply chains as the flows of goods and materials. However, despite its importance, financial side of supply chains was often overlooked till recently, and it is still an unexplored area of scientific research (More & Basu, 2013).

Now companies are getting more and more motivation to pay better attention on management of financial flows; there is a space for innovation here. Companies nowadays are very experienced and open for cooperation within supply chains in order to achieve agility of their chain and decrease total costs. However, as soon as we look at the financial aspect, suppliers and buyers in a supply chain often behave individualistically and usually have opposite goals and actions (More & Basu, 2013). It can lead to destruction of the whole supply chain. For instance, Flynn et al. (2008) describe the case of the Ford Company which systematically delayed payments to its supplier Navistar; as a result, Navistar shut down factories and refused to produce engines for Ford. Therefore, paying attention to collaborative financial flows in supply chains provides additional opportunities for improvement (Wuttke, Blome, & Henke, 2013).

In conditions of globalization financial aspects are becoming even more urgent: requirements for working capital of supply chain partners increase significantly (More & Basu, 2013). Working capital, at the same time, is one of the key indicators of operational performance for supply chains (Hofmann & Kotzab, 2010). Thus, supply chains face lots of obstacles for their development in the global environment.

Therefore, focus on financial flows along with flows of goods and information in supply chains has strengthened among enterprises. For instance, according to some practitioners' reports, e.g. Aberdeen Group (2007), already in 2007 15% of companies demonstrated their need in implementing advanced methods of harmonization of its downstream and upstream financial flows. This is how so called Financial Supply Chain Management appeared at the center of attention.

In this paper under the term "Financial supply chain management" (FSCM) we will understand "optimized planning and controlling of supply chain cash flows to facilitate efficient supply chain material flows" as it was defined in the research of Wuttke, Blome, & Henke (2013). First, this definition captures the main feature of FSCM - its interdisciplinarity, integration of operations management and finance. FSCM looks on the management of product, information and financial flows in a coordinated way. So, FSCM creates interrelation between physical and financial supply chain. Secondly, chosen definition also reflects the other important difference of FSCM from traditional financial flow management: under FSCM the focus is not on financial flows of individual firm but on the cooperative finance of the whole supply chain.

For better understanding of FSCM role for real companies, we will consider the example of implementation of automation solutions for financial flows provided by Visa International Commercial Solutions. New automation solutions for managing financial flows in supply chains introduced by this provider include Purchasing Cards, Distribution Cards, Electronic Invoice Payment Systems etc. Thus, one European car manufacturer adopted Purchasing Card system. As a result, the processing costs per one purchasing transaction halved, and the time spent for purchasing materials decreased by 80 percent. Consequently, time savings allowed the company to manage its inventory more efficiently and reduce inventory levels by 22 percent (Hausman, 2005). So, we can see the practical example of how improvements in financial flow management facilitated improvements in operational flow of the company.

Now, when the practical importance of FSCM is growing, the amount of research works in this field has also increased. However, we can still see the lack of empirical research, so FSCM presents a research area with lots of uncovered aspects.

FSCM is on the intersection of supply chain management and corporate finance (ISCM, 2012). Some scholars made attempts to investigate finance and operations in supply chains conjointly; these research papers are close to the field of FSCM and relevant for better understanding of it. Luo & Shang, (2013) introduced cash-pooling as a tool for coordinated management of financial flows in multi-divisional supply chains; so, here we can see intention to integrate financial aspects into supply chain models. Another working paper also claims that just leveraging buyer power (e.g. delay payments to suppliers) can't be an efficient practice for

managing working capital level; conversely, the collaborative view on working capital management from supply chain perspective is needed (Hofmann & Kotzab, 2010). Some researchers assert that managing financial flows can lead to significant improvements in supply chain's inventory flows. For instance, Protopappa-Seike & Seifert (2010) in their research addressed such question as relation between operational and financial performance; thus, they determined effect of working capital decisions on optimal order quantity in periodic review models. Randall & Farris (2009) also found that financial collaboration can lead to increase in profitability along the supply chain.

The other group of researches on FSCM is focused on detailed investigation of particular FSCM practices. Mainly works on FSCM are qualitative, not quantitative. Mostly they are aimed on creation of theoretical frameworks in order to establish basis for further investigations in this field. Therefore, this scientific area has a great potential for future research.

FSCM practices are rather diverse already. In general, they can be classified into two groups - pre-shipment FSCM and post-shipment FSCM - as it was suggested in the fundamental empirical paper of Wuttke, Blome, & Henke (2013) on FSCM. Pre-shipment FSCM (before invoice release) includes Inventory finance, Advance payments, Working capital financing, while examples of post-shipment FSCM (after invoice release) are Trade credit, Electronic payment platform, and Supply Chain Finance, which will be investigated in our research.

In that paper the authors also covered such aspect as an effect of pre- and post- shipment FSCM on supply chain performance and risks. Researchers concluded that both pre- and post-shipment FSCM are good mechanisms for reduction of cash flow risk and supply chain disruption risk; moreover, FSCM has a positive effect even on 2nd tier suppliers because of decreasing liquidity shortages along the supply chain (Wuttke, Blome, & Henke, 2013).

One of the pre-shipment practices is working capital financing. Working capital is the amount of money required for financing day-to-day operations of companies. Usually the following forms of financing the working capital are available: bank loan, credit line, bills financing, bank guarantee, letter of credit, working capital loan etc. (Sagner, 2011). These instruments let companies to receive necessary funding for their supply chains in return for some interest payment to the bank.

Another pre-shipment instrument - Inventory finance - is a form of short-term collateral-based lending, where inventory plays the role of collateral. This instrument can help companies – manufacturers, retailers, service organizations - to obtain additional financing for their business needs, e.g. to buy more inventory (Hofmann, 2009).

Advance payments assume the payment for goods before their shipment to the client. Some authors mentioned the positive influence of advance payments on reliability of supply

chains (Babich, 2010; Zhang et al., 2016). Insufficient financial resources of suppliers can be an important source of supply risk (Zhang et al., 2016); thus, advance payments to suppliers can improve their financial state and, consequently, reduce the supply risks.

One of the common sources of short-term financing for supply chains, Trade credit, is a post-shipment FSCM measure. It is a credit of supplier to buyer for purchasing of goods or services. It means that the buyer and supplier agree on delayed payment for goods and services that are shipped to the buyer. The evidence from existing researches shows that trade credit can strengthen long-term relationships between supply chain partners (Summers & Wilson, 2000). Moreover, trade credit can play an important role in reduction of transaction costs (Carvalho & Schiozer, 2015) as well as be a signal of the product quality to the buyer (Klapper, Laeven and Rajan 2012).

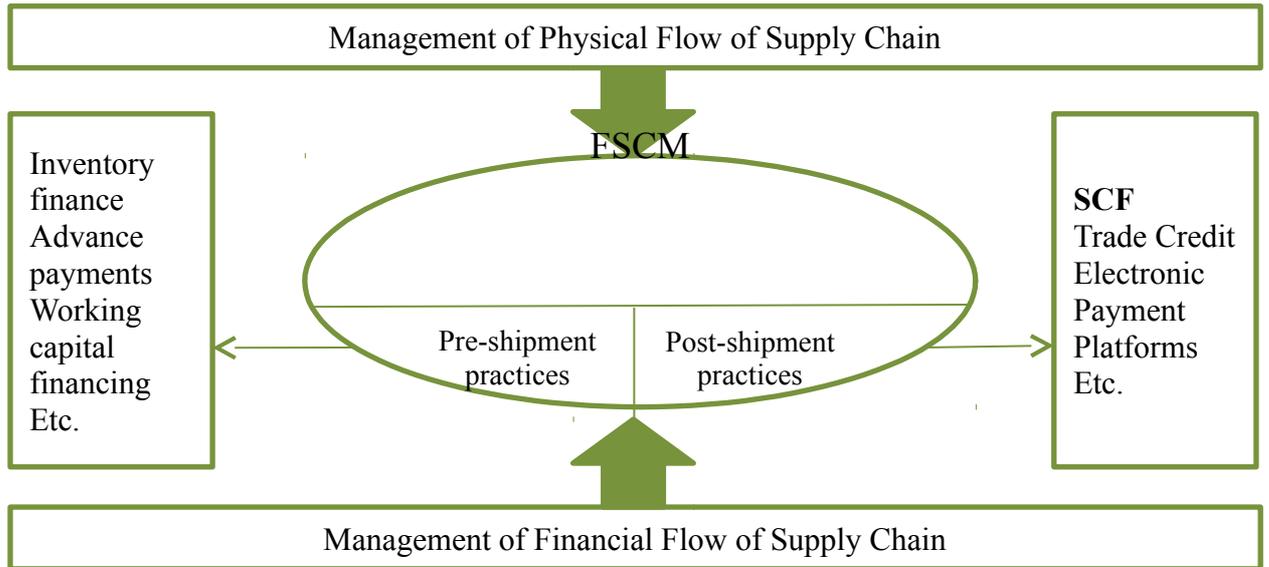
However, one of the most promising and developing post-shipment FSCM practices now is so called Supply Chain Finance. According to the survey of the Association of Chartered Certified Accountants it was recognized as a highly significant tool for financing SMEs worldwide with a big potential for innovations (Camerinelli, 2014). For now, despite the apparent growth in this field, it is still staying on the early steps of development (Kerle, 2013); therefore, it presents a very interesting and urgent topic of research, and it will be focused in this paper.

1.2. Growing field of research on Supply Chain Finance

1.2.1 Broad approach to Supply Chain Finance

As it was introduced in the previous part, Supply Chain Finance (SCF) is one of the most promising FSCM practices. Figure 1 illustrates the place of SCF in the system of Supply Chain Management.

Figure 1. Place of SCF in the system of Supply Chain Management



Source: Created by author

There is no common definition for SCF. From the broad perspective it is defined as a set of Accounts Payable-centric and Accounts Receivable-centric and other related financial instruments and practices for optimizing working capital and boosting liquidity of supply chain by creating collaboration among supply chain partners (Bryant & Camerinelli, 2013).

In order to clarify the term “SCF” European Banking Association also suggested a classification of SCF tools by following groups (Bryant & Camerinelli, 2013):

- Accounts Payable–centric instruments, including Reverse Factoring and Dynamic Discounting;
- Accounts Receivable–centric instruments, such as Invoice Discounting, Receivables Purchase;
- Other related SCF instruments, e.g. Bank Payment Obligations, Documentary Trade Finance.

The other classification of SCF was introduced in the working paper by Vliet et al. (2013) In their paper they came up with a framework for typology of SCF practices which contains two dimensions: SCF Motive (competence-oriented vs. transaction-oriented) and SCF Tactics (uniform vs. customized approach toward relationships with different suppliers). This framework can be helpful in the future for choosing the best SCF practices for particular cases, but the managerial application of the framework is not achieved yet. The authors didn’t come up with any examples of SCF instruments and their place in this matrix, as well as in what circumstances

this or that type of instrument should be implemented. So, this typology of SCF instruments needs further study.

In the field of SCF we can notice lack of empirical researches, and more emphasis on qualitative information than on some quantitative aspects. Mainly, in literature on SCF several directions can be distinguished.

First, there is a layer of researches concentrated on development of conceptual frameworks and mathematical models of SCF. The authors of these papers usually mention that such kinds of works are aimed at creation of the primary theoretical basis for future investigations and quantitative tests (Hofmann, 2005; Pfohl & Gomm, 2009; Vliet et al., 2013). For example, one of the meaningful works here is a paper of Hofmann E. (2005). The researcher considers all relevant elements of SCF that constitute the framework of SCF, such as micro- and macro- institutional factors of SCF, collaboration characteristics of supply chains, and financial functions of SCF. The other fundamental article by Pfohl & Gomm (2009) also suggests SCF framework which contains objects, actors and levers of SCF. Further the authors design mathematical model describing the process of benefits creation in supply chain and explaining how optimization of financial flows leads to working capital improvements. However, they don't provide a quantitative check of this theoretical model.

Secondly, some practitioners' reports and articles are concentrated on general trends on SCF market, their reasons, and projections on future development. For instance, research by Demica Company based on the survey of top 25 European banks showed that projected annual growth of SCF programs market should be around 30-40%; and the most actively developing markets for SCF are China, Eastern Europe, and India (Kerle, 2013). Several papers identified factors that facilitate development of SCF techniques nowadays (Keifer, 2011; Passi, 2012; Nienhuis et al., 2013). Among the most influential factors can be mentioned the role of technological advancements like electronic-invoicing, that quicken operations and bring flexibility into the supply chain (Passi, 2012).

The other prevalent topic among SCF literature is benefits of SCF for different parties of supply chain collaboration. This is a frequent topic in literature around SCF. The authors analyze general effects of SCF practices, drivers for implementation of SCF (Dyckman, 2009; Kerle, 2013). Mostly, all benefits that mentioned in various researches can be divided into two big groups: improvement of supply chain financial performance and risk mitigation. The first group can include working capital optimization, extended payment terms to buyers without a risk of losing any suppliers, reduction of capital costs for suppliers, increase of suppliers' liquidity, reduction of transaction costs. Risk mitigation effect of SCF implementation is more about separation of credit risk from operational risk, and tightening relationships with suppliers.

A number of researches on SCF are focused on quantitative aspects. Thus, there are attempts to calculate the amount of benefits from implementation of SCF programs (Basu & Nair, 2012; Kerle, 2013; Camerinelly, 2014). One of the surveys of Demica Company (2013) evaluated the potential of SCF in manufacturing, logistics and wholesale sectors in different European countries. The authors concluded that implementation of SCF practices in these industries can result in liquidity release for suppliers by more than 17 billion Euro in Poland, Czech Republic and Hungary jointly, and by even higher amount in developed countries like Germany, France or UK. Moreover, buyer companies can also benefit by getting additional gains from working capital optimization, which according to the survey results exceed 100 billion Euro for six analyzed countries together (Kerle, 2013). The advantage of this study is that researchers, while calculating the amount of liquidity release due to SCF implementation, tried to avoid double counting and cleaned the data from effects of other instruments of FSCM. However, the calculating procedure and methods of data collection and analysis are still not transparent in the paper. In contrast, the researchers of Aite Group came up with explanation of 2 methodologies and detailed calculations of the potential size for Reverse Factoring market (Camerinelly, 2014).

There are also papers focused deeper on particular SCF instruments. For example, scholars started to investigate advantages of dynamic discounting for supply chains (Beck, 2011), assess tangible benefits of bank payment obligations in context of global companies (Green, 2012), or identify optimal discount rates for factoring solutions in supply chains (Zhang & Shen, 2011). It demonstrates the rising potential for innovations in the field of SCF.

One of the most interesting instruments in academic literature on SCF is Reverse Factoring. Actually, there are quite many works where authors introduce SCF not as a set of instruments, but they use the term SCF as a synonym to Reverse Factoring (Seifert R. & Seifert D., 2011; More & Basu, 2013; Wuttke et al., 2013). This is an evidence of mixed terminology and lack of common understanding in the literature about what SCF really is. It is not the proper way to define SCF because Reverse Factoring is only one of the forms of SCF practices. However, this narrow approach can be acceptable as Reverse Factoring deserves special attention nowadays; it is becoming more and more popular and promising instrument in practice, especially for emerging markets. And in our research we will be interested mostly in this specific tool. Thus, using the term “SCF” further in the text we will primarily imply Reverse Factoring, thereby applying the narrow approach to SCF.

The reasons of such special attention to this tool and its growing popularity both among researchers and practitioners will be considered and explained next.

1.2.2 Focus on Reverse Factoring

Before understanding the mechanism and peculiarities of Reverse Factoring, we should consider such underlying principle of financing as Factoring.

Factoring is a procedure in which supplier can sell its Accounts Receivable at a discount to provider of factoring services (factor) in exchange for immediate payments (Seifert R. & Seifert D., 2011). This procedure is initiated by supplier; therefore, it is so called “supplier-centric” instrument. Factoring can be “with recourse” and “without recourse”; the former means that supplier is responsible for the ability of the buyer to pay to factor the full amount of receivables.

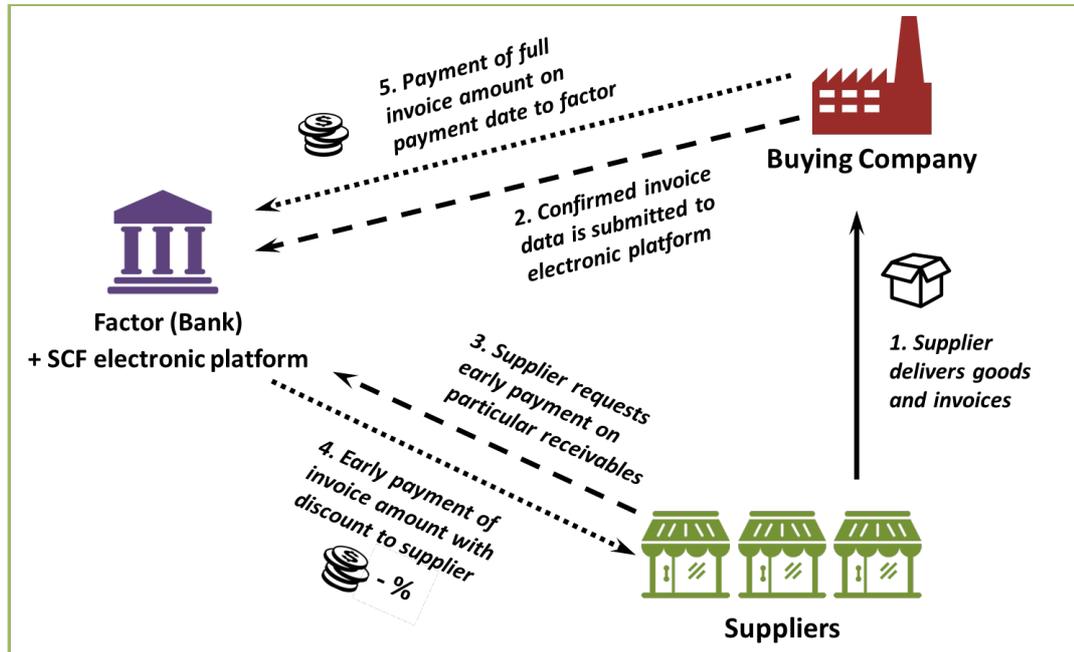
Factoring is more than just a short-term credit for a supplier with collateral in the form of Accounts Receivable; it includes also additional services provided by factors (banks or factoring companies). Thus, besides financing the supplier, factoring provider also carries such functions as assessment of creditworthiness of buyers, management of financial interactions between the supplier and its buyer, taking risks of non-payment of buyers from suppliers (except for factoring with recourse when supplier has to compensate money that were not paid by the buyer to factoring provider) (Grigorov, 2012).

However, usually factors buy from suppliers pools of receivables. It means that before making an agreement factor has to estimate creditworthiness of many buyers in order to calculate risks of providing factoring services to supplier (Seifert R. & Seifert D., 2011). It is costly and challenging procedure, especially for emerging markets, where we can observe weak regulations, not transparent operations and accounting, and lack of credit information about companies. The opposite picture can be seen in Reverse Factoring practices.

In contrast to traditional factoring, Reverse Factoring is facilitated by the buyer company which wants to extend payment terms; so, it is a buyer-centric approach. In Reverse Factoring factor pays company’s invoices to the supplier at accelerated date with a discount, while the buyer company makes payments to the factor on the due date (Cavenaghi, 2013). The size of discount in this case depends not on the riskiness of supplier, but on the credit rating of the buyer company because, unlike the traditional factoring, not supplier but buyer company is fully responsible for payments to the factor. Typically, buyer, that implements Reverse Factoring, is a big well-known and sustainable company. Thus, Reverse Factoring is an instrument which allows financing suppliers against the credit rating of the buying company, which is usually much better. Also, Reverse Factoring solutions are frequently automated with help of electronic platforms which facilitate integration and exchange of information and documents between all involved parties (Meijer & Bruijn, 2013).

The scheme of Reverse Factoring can be seen on the Figure 2.

Figure 2. Reverse Factoring Scheme



In the real world we can see the growing interest to Reverse Factoring, such big companies as Siemens (<http://finance.siemens.com>), Unilever, Volvo (Cavenaghi, 2013) apply this alternative way of financing its suppliers, though it is still far from being a common practice for supply chains. There are even initiatives on governmental level to support Reverse Factoring development. For instance, in 2012 UK government announced the program aimed to boost implementation of SCF solution by leading companies and banks. The largest UK companies were encouraged to participate in this program which was expecting to support SME suppliers with cheaper financing (<https://www.gov.uk>).

Scholars also demonstrate that Reverse Factoring SCF potential is huge in terms of the market size nowadays. Aite Group estimated global market size for Reverse Factoring with two methods: based on Accounts Payable outstanding, and based on Days Payable Outstanding. Both approaches gave similar results that business potential of Reverse Factoring is approximately 20-25% of the total value of industry's Accounts Payable (Camerinelli, 2014). So, this area deserves attention from scientific community.

Some researchers consider Reverse Factoring as a win-win-win solution as it can be beneficial for all parties of the supply chain. Surveys are mainly focused on identification of effects of Reverse Factoring implementation, tangible and intangible benefits for buying companies and suppliers (Seifert R. & Seifert D., 2011; Camerinelli, 2014). These surveys are mainly based on developed European countries.

First of all, Reverse Factoring may benefit for suppliers, especially small ones, which often experience substantial difficulties with raising capital from banks. Implementation of the Reverse Factoring solution will allow suppliers to obtain money from banks or other financial providers at a lower rate due to high credit rating of the buying company involved in this process. The other intangible benefit for suppliers is standardization of payment terms (Cavenaghi, 2013). Therefore, Reverse Factoring can solve liquidity problem for suppliers and let them to predict their cash flows better, consequently making working capital management more flexible.

Additionally, buying company also receives some benefits from Reverse Factoring. Very often we can observe in supply chains that buying companies delay payments to suppliers as Accounts Payable present a very cheap working capital financing source in comparison to traditional bank credit (Bryant & Camerinelli, 2013). As a result suppliers don't get their payments on time which can lead to deterioration of their financial state. However, in case of Reverse Factoring the company gets an opportunity to extend payment terms (increase Days Payable Outstanding) with no harm to its suppliers (Taylor & Zax, 2015). It means that by involvement into Reverse Factoring program, the buyer company decreases its risk that its suppliers will go down and won't be able to operate anymore. So, Reverse Factoring assures some level of stability in the supply chain and improves supplier relations.

For such parties like factoring companies or banks, which sometimes play the role of providers of SCF solutions, Reverse Factoring is an additional instrument to the portfolio of activities. It is a new source of income with high volume of transactions from big creditworthy buying companies (Istuk & Labus, 2015). Thus, Reverse Factoring could be a gainful instrument from providers' point of view too.

The other important aspect is Reverse Factoring implementation process: e.g. how such SCF solutions should be applied in order to bring successful results for supply chains. Seifert R. & Seifert D. (2011) addressed the question of key success factors of implementation and revealed that strength and quality of banking partner, and CEO sponsorship may play a crucial role. However, the survey was conducted with small sample of companies from different industries and 55 countries; therefore, this research doesn't consider country-specific and industry-specific aspects which can matter. Moreover, the emphasis was made only on success factors, with no attention to risks and challenges.

In the paper presented by Vliet K. et al. (2013) the authors distinguished two different approaches (tactics) to Reverse Factoring implementation. They found empirical evidence that main stimulus to use Reverse Factoring for some companies is improvement of working capital position, while other companies see it from the risk management perspective as a tool for

strengthening sustainability of their suppliers. Still, the authors didn't come up with whether or not these two approaches were optimal in the cases they observed, and in what circumstances each of the tactics could be advisable.

Another meaningful paper of Wuttke D. et al. (2013) highlights the adoption process of Reverse Factoring. More specifically, analysis is concentrated on how buying companies adopt Reverse Factoring and why some of them are more successful in this process than others. The authors examined six European companies with different level of SCF implementation: from initiation to routinizing stage. Interestingly, among other aspects the researchers studied the role of suppliers in implementation process. Thus, supplier involvement and relational strength should be taken into account. Moreover, the authors came up with the concept of "upstream dissemination" (diffusion of innovation among suppliers) and found it crucial for adoption of innovative SCF solutions.

It is also important to consider not only positive outcomes of Reverse Factoring but challenges as well. More & Basu (2013) analyzed challenges of Reverse Factoring and their interrelations in the set of Indian firms. As a result they revealed six groups of challenges (HR, IT, finance, organizational strategies and practices, inter- and intra-firm coordination, macro-institutional) and arranged them into hierarchical model. The authors identified the lack of common vision between different parties in supply chain as the most crucial challenge for SCF. However, the managerial application of this hierarchy is still a topic for further analysis because the particular actions for overcoming this or that challenge were not elaborated.

Finally, pricing decisions for Reverse Factoring solutions gain attention of researchers (Vliet et al., 2013; Yang, 2013). For instance, Yang (2013) developed pricing model based on maximization of both bank profit and supplier's profit. Additionally, Vliet et al. (2013) explored under what conditions, e.g. extension of payment terms, Reverse Factoring will be still beneficial for suppliers.

To conclude, for Reverse Factoring, as a particular form of SCF, we can observe a widening body of research for the last years. Still, lots of questions are not addressed yet and have to be investigated in the field. Too often scholars focus on benefits of Reverse Factoring and do not pay much attention to the adoption process and accompanying challenges and costs. The majority of surveys and investigations are based on developed countries where SCF instruments have already gained some level of awareness among practitioners. Moreover, the prevalent approach for investigation of Reverse Factoring or other SCF practices is buyer-oriented; the central piece of research is usually a buying company. However, the role of suppliers in these relationships in supply chains shouldn't be overlooked.

In this paper we will cover the research gap by focusing on emerging markets, and specifically on Russian companies; moreover, more attention will be paid to the process of Reverse Factoring implementation itself and its challenges.

1.3. Need for financing solutions in emerging markets: focus on Russia

Why is it interesting to look at the Reverse Factoring practices on emerging markets, and like in our particular case – on Russian market?

Some specific characteristics of emerging markets and some distinctive problems that arise in supply chains in these markets create a foundation for growing potential of Reverse Factoring.

Reverse Factoring, as it was discussed in the previous section, allows providing suppliers with capital against the credit rating of the buying company. So, it is a source of cheaper financing for suppliers among whom usually there are lots of SMEs. At the same time, the main problem for SMEs worldwide is access to capital (Saleem, 2014); and most notably this problem occurs in emerging countries. Therefore, investigation of Reverse Factoring on emerging markets is a topic of current interest which is barely covered in the academic literature for now.

According to reports of the International Finance Corporation, SMEs in emerging markets are extremely constrained with financing; estimated SME finance gap is approximately 1 trillion dollars. It means that about 22% of SMEs in emerging economies are underserved and 39% are unserved with finance at all. While big companies don't have problems with access to capital and micro enterprises fulfill their financial needs through Microfinance Institutions, the problem of SMEs' lack of financing is not resolved (Saleem, 2014).

Additionally, such instruments like traditional Factoring showed to be not so successful in emerging markets (Klapper, 2006). Lack of credit information about companies, high credit risks, ambiguous accountings, difficult and unclear regulations, that are typical for emerging markets (Klapper, 2006; Deloitte, 2013), make Factoring rather risky and, as a result, rather costly instrument for SME suppliers. Therefore, emerging markets have a need in alternative financial solutions for supply chains that can be affordable and less risky. Reverse Factoring in this sense can be more suitable for emerging markets because the credit risk, with which financial providers have to deal, is much lower as it is based on the high-rating companies.

Russian market at the same time has its own specificities; and it could be interesting to explore potential and challenges of Reverse Factoring implementation in the context of Russian supply chains. Next we will look at some characteristics of the Russian supply chains as well as

environment for SME's development in Russia since usually they are most likely the suppliers in need for financing solutions.

SME sector in Russia has been growing steadily since the end of the crisis period; and nowadays it plays a very important role for Russian economy as a source of economic growth, taxes, and workplaces. By 2013 Russian economy accounted for approximately 4,4 million SMEs¹, including individual entrepreneurs. However, it hasn't reached the level of developed European countries yet: E&Y estimated that around 25% of GDP of the country would be produced by SME companies in 2015 which is significantly lower level than in developed countries (EY, 2014). The government is also actively involved in creation of favorable business climate for SMEs through improvement of regulatory environment (OECD, 2015).

Despite increasing number of SMEs in Russia, the environment is not yet favorable enough for their effective operations: many SMEs face with low availability of financing. Now we can observe some improvements in the credit conditions in comparison to deterioration in 2009-2011; however, requirements and conditions are still strict. The loan rejection rate among SMEs remains big; for instance, more than 40% of SMEs in industrial business can't receive long-term loans (OECD, 2015). Moreover, interest rates in banks for such types of enterprises are quite high (14-17% on average), and can be even higher in smaller provincial cities.

First of all, the reason of so high lending costs is lack of financial transparency of SMEs' operations and information asymmetry. In addition, such enterprises often are unable to provide banks with secure collateral. More than that, SMEs could be rather inexperienced in risk management, legal and economic issues. Consequently, the level of non-performing loans for SMEs is more than 8% (EY, 2014). Therefore, banks perceive Russian SMEs as highly-risky clients and assign high prices for them to offset risks.

Access to capital for small and medium enterprises in Russia is constrained not only by high interest rates established in banks, but also by some institutional imperfections. For example, the banking system is not evenly developed through the whole Russia; banking services are concentrated in the big cities and underrepresented in remote regions (World Bank Report, 2015). Additionally, weak legal environment with bureaucracy and corruption complicates the process of credit lending for SMEs (Bessonova & Gonchar, 2015). Therefore, Russian market has an uncovered demand for SMEs' financing and needs financing instruments for SMEs different from traditional bank credits.

If we take a look on the situation in Russian supply chains not from the side of SME suppliers, but from the side of buying companies, we can also notice some problems. Big

¹According to Federal Law 209-FZ from 2007, SMEs are organizations with no more than 250 employees, sales volume not more than 1000 million Rubles, and state share in the capital not exceeding 25%. (http://www.consultant.ru/document/cons_doc_LAW_52144/)

companies can have a huge network of suppliers spread all over the country, but with inadequate information systems it could be hard to manage financial relations (flows of supplier invoices, purchase orders etc.) inside of the supply chains. Also, buying companies are bounded in terms of working capital optimization, and when they try to extend payment terms by delaying payments to their suppliers, it negatively affects liquidity and efficiency of suppliers and supply chains in general.

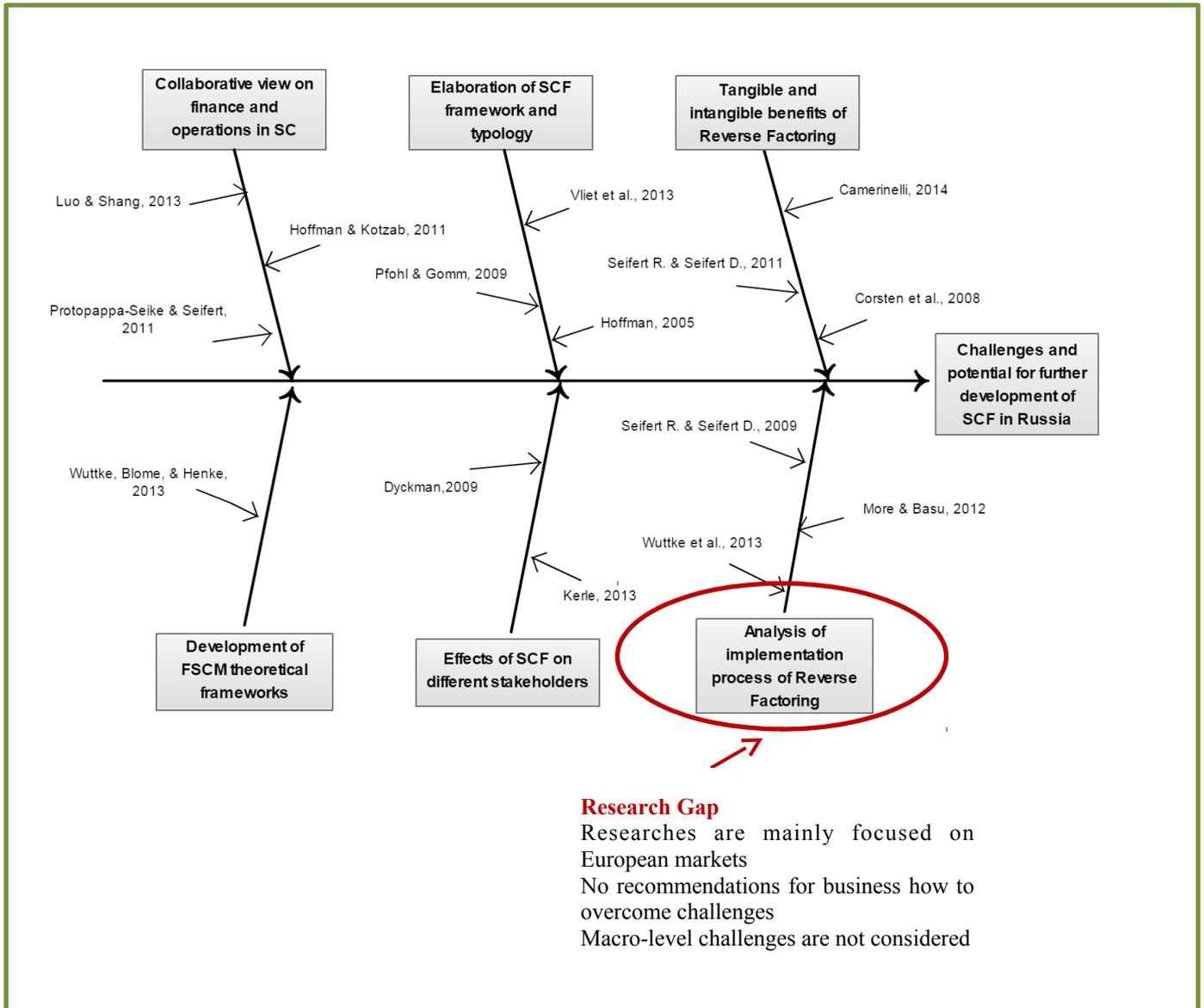
To sum up, nowadays Russian supply chains face particular difficulties that facilitate the increase of interest for alternative financing tools which can help to optimize working capital and to boost liquidity of supply chain parties. In this sense, it would be worth to investigate the potential of SCF practices (in particular, Reverse Factoring as a specific form), that are already recognized as a promising instrument for emerging markets, in the context of Russian environment.

1.4. Research Problem and Research Questions

This research is supposed to contribute to the emerging area of Financial Supply Chain Management that emphasizes collaborative view on financial and material flows in supply chains. More specifically, we will focus on SCF practices – mainly Reverse Factoring (narrow view on SCF) – which is believed to be an effective tool for improving working capital management and for increase of liquidity in supply chains. As literature review showed, the number of researches in this field is comparatively small, particularly within the context of emerging markets. Therefore, we are planning to cover the research gap by investigating the phenomenon of SCF (on the example of Reverse Factoring as its specific form) in the Russian market. The **research problem** then can be formulated as: “**To identify implementation challenges and requirements and to estimate potential for future development of SCF in Russian supply chains**”.

The scheme that visualizes the literature review on SCF and related areas and demonstrates existence of the research gap is presented below (Figure 3).

Figure 3. Finding the Research Gap



Source: Created by author

Research questions that will be in the center of attention in this paper are the following:

1. How does external environment influence the level of application of SCF practices in Russia?
2. How do Russian companies implement SCF programs (Reverse Factoring in particular)?
3. How does implementation of SCF (Reverse Factoring in particular) affect different stakeholders in Russian supply chains, e.g. Buying companies and Suppliers?

As a result we will get an understanding whether SCF practices, like Reverse Factoring, have a potential for further development in Russia and what stakeholders can benefit from these programs. Moreover, we will give recommendations on the requirements for their successful implementation in Russian supply chains.

Summary of Chapter 1

In the chapter we identified and distinguished such terms as “Financial Supply Chain Management”, “Supply Chain Finance”, and “Reverse Factoring”, which are often mixed in the academic literature. Then the literature review on SCF was conducted and the research gap for further investigations was determined. Thus, in this paper the focus will be on challenges and potential of implementation of SCF practices (specifically Reverse Factoring) in Russia. As it was discussed above, the Russian market due to its specific characteristics is interested in new financing solutions for supply chains; therefore, the research problem and research questions that were set are of the current interest and worth to investigate.

CHAPTER 2. METHODOLOGY

In order to elaborate the declared research problem, multiple case study method will be used, as it seems the most appropriate approach for exploratory studies in the newly evolved areas (Sounders, Lewis & Thornhill 2009; Yin, 2009); and SCF is one of such scientific fields on its early stages of development (Wuttke et al., 2013). Our analysis will consist of two stages: macro-level analysis and cross-case analysis.

The idea behind is to look at the macro-environment first, to evaluate the maturity grade of Russian market of SCF, to understand what industries and which companies tend to use these instruments now and why. Next step is to analyze SCF implementation on the corporate level, in the context of Russian environment. Here the cross-case analysis itself will take place.

The focus of case studies will be on the implementation process and identification of challenges that companies may face on its different stages, requirements for implementation and benefits for involved parties. So, it will be important how companies implement SCF instruments, and what roles different stakeholders play in this process, especially role of suppliers' involvement will be interesting as it is rarely addressed in literature (e.g. what suppliers are involved in these programs, to what extent and in what sequence).

While conducting the research we specifically focus on one SCF instrument – Reverse Factoring, as in Russia SCF is mainly represented by this instrument. Still it will allow us to make some generalization of the results because Reverse Factoring is recognized as one of the most widespread SCF instruments and is often considered as a synonym to SCF. At the same time, it will be easier to analyze and compare data and to avoid some inconsistencies if we take one most representative product of SCF.

The difficulty arises because there is no uniform terminology for such instrument in Russia, and every provider can name it differently. So, after the monitoring of the Russian market we identified that Reverse Factoring instrument can be found under the terms “Reverse Factoring”, “Procurement Factoring”, “Supply Chain Finance”, or “Supplier Financing”². Therefore, this research will cover above mentioned products of the Russian market.

Next the methodology for both stages of analysis will be elaborated.

²Russian equivalents: “Реверсивный факторинг”, “Закупочный факторинг”, “Программа финансирования цепей поставок”, “Программа финансирования поставщиков”.

2.1 Methodology for macro-level analysis

Macro-level analysis includes the analysis of the current Russian market for Reverse Factoring and investigation of macro-environmental factors that influence this market development. It will allow to estimate the level of application (the maturity grade) of SCF in Russia, as well as the reasons for that, and, therefore, to cover the first research question.

This is a very important step before the main stage of research - investigation of the process of SCF implementation from the companies' perspective - because the implementation process shouldn't be considered in isolation from the environment and specifics of the Russian SCF market. Thus, according to the research of (Iacono, Reindorp & Dellaert, 2015), the direct benefits from SCF implementation for all participants of supply chain are highly susceptible to the market conditions among which are competition between SCF providers and interest rates. Therefore, the macro-level analysis is a reasonable, justified step of research.

Macro-level analysis will consist of the analysis of the Russian market of Reverse Factoring and analysis of exogenous factors influencing this market. The market analysis will cover main market forces; thus, main aspects to consider are:

- Who are the main Reverse Factoring providers (level of competition);
- Who are the users of Reverse Factoring instruments (customers);
- What is the influence of substitutes (e.g. bank credits and classical factoring);

As for the exogenous factors, here the PESTEL framework is applicable. Based on the literature review, the main groups of factors influencing Reverse Factoring market, and therefore relevant for consideration, are:

- Economic factors (interest rates, exchange rates, demand for consumer goods etc.);
- Technological factors (development of IT technologies for Reverse Factoring programs);
- Legal factors (regulation of Reverse Factoring in Russia).

Taking into account that information about Reverse Factoring in Russia is extremely limited, and this instrument is often considered only jointly with other factoring instruments, the macro-level analysis will be conducted in the form of expert evaluation. It means that the main source of information will be expert opinions in the form of semi-structured interviews about the state of Reverse Factoring market in Russia. Additionally, we will investigate secondary data, such as databases, websites of SCF providers, articles, and transcripts of discussions from conferences of Association of Factoring Companies.

The process of getting expert opinions will be described more precisely in the next section.

2.1.1. Selection of Reverse Factoring providers relevant for interview

In order to collect primary data about the state of Reverse Factoring (SCF) market in Russia, expert opinions in the form of semi-structured interviews to be used.

To find the relevant experts, who can give the professional view on Reverse Factoring, we looked at the players of factoring market in Russia, which are factoring companies and bank subsidiaries, and identified the leading ones. It is assumed that the leaders of the factoring market have wider experience and knowledge about different innovative instruments; so, it is more probable that, in conditions of limited data on Reverse Factoring in Russia, this companies will be the most valuable and reliable source of information on Reverse Factoring development for the research.

The number of the factoring providers is around 30-40 companies; the main 21 players of the market are a part of Association of Factoring Companies (AFC). It is an influential and important organization for the market. Its members collaborate to exchange best practices, elaborate standards, develop the market together, and discuss problems and perspectives of factoring instruments (<http://asfact.ru>).

These members were analyzed according to the following criteria: volume of factoring operations, number of employees, number of clients and new clients, years of operating (as an indicator of experience on the market). As a result, top-5 companies on each criterion were identified (Tables 1-5). Data were taken from the analytical report of Association of Factoring Companies for 9 month of 2015 (AFC, 2015):

Table 1. Top-5 factoring providers in terms of volume of factoring operations for 9 month of 2015

Name of factoring provider	Total volume of factoring operations, mln. rub.	Volume of factoring with recourse, mln. rub.	Volume of factoring without recourse, mln. rub.
VTB Factoring	290 760,23	126 417, 32	130 235, 61
Promsvyazbank	255 653, 42	165 875, 03	25 096, 98
FK "Otkrytie"	113 929, 71	84 574, 43	8 087, 33
Alfa-Bank	100 357,32	51 809, 53	19 552,95
GK NFC	53 449, 04	27 446, 76	24 832, 08

Source: Association of Factoring Companies

Table 2. Top-5 factoring providers in terms of number of employees

Name of factoring provider	Number of employees
GK NFC	405
VTB Factoring	256
Promsvyazbank	62
Metallinvestbank	49
Russian Factoring Company	48

Source: Association of Factoring Companies

Table 3. Top-5 factoring providers in terms of number of clients

Name of factoring provider	Number of clients
Promsvyazbank	1315
Metallinvestbank	595
GK NFC	435
VTB Factoring	425
Alfa-Bank	368

Source: Association of Factoring Companies

Table 4. Top-5 factoring providers in terms of number of new clients for 9 month of 2015

Name of factoring provider	Number of new clients
Promsvyazbank	233
GK NFC	118
Metallinvestbank	103
Alfa-Bank	80
VTB Factoring	68

Source: Association of Factoring Companies

Table 5. Top-5 oldest factoring providers in Russia

Name of factoring provider	Year of starting factoring operations
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GK NFC	1999
Promsvyazbank	2002
TransCapitalBank	2002
FK “Otkrytie”	2002
Bank “Soyuz”	2004

Source: Association of Factoring Companies

Therefore, these leading factoring providers constituted a pool of the companies which were potentially suitable to contact and to make an interview about Reverse Factoring:

- GK NFC
- Promsvyazbank
- VTB Factoring
- Alfa-Bank
- Metallinvestbank
- FK “Otkrytie”
- TransCapitalBank
- Russian Factoring Company
- Bank “Soyuz”

Among this pool of leading factoring providers, 6 out of 9 companies offer Reverse Factoring instruments to their customers. From these 6 companies only 3 were ready to collaborate, and therefore, were chosen for the interview: **Promsvyazbank, VTB Factoring and GK NFC (National Factoring Company).**

The choice of Reverse Factoring providers will ensure the validity and reliability of macro-level analysis. First, these three companies are leaders of the factoring market. Secondly, the companies are of a different type: bank, bank’s subsidiary and factoring company. So, interviews with representatives of these companies will provide the mix of opinions both from perspective of banks and from perspective of the factoring company, which can have different view on the market because of specifics of the organizations. Moreover, the companies strongly differ from each other in terms of positioning: VTB Factoring and Promsvyazbank focus on big transactions (higher than 30 mln rubles), while NFC covers mostly small- and medium-sized transactions.

Therefore, these companies have sufficient experience, sufficient information about the market in order to provide our research with valuable insights on the problems, trends and development process of Reverse Factoring from different perspectives.

2.1.2. Semi-structured interview for Reverse Factoring providers

Semi-structured interviews with representatives of selected companies were conducted, with average length of 1 hour. The interviewed persons were department managers since it is

expected that employees of this level have the best understanding and overview of the market of factoring services in Russia.

The semi-structured interview guide was created based on the literature review and preliminary investigation of the secondary data. The set of questions primarily covers the areas for which there is not enough information in the secondary sources, but which are highly relevant for the macro-level analysis (Table 6).

This interview guide helped to control the interview process (Yin, 2009) and to cover all areas of interest about the current state of Reverse Factoring in Russia. However, the questions from the guide were not the only ones covered in the conversations: much wider scope of issues was discussed during the interviews.

Table 6. Semi-structured interview guide for Reverse Factoring providers

<p>I. General information about the company</p> <ol style="list-style-type: none">1. What is the number of full-time staff members in the company?2. What is the age of the company?3. What is the estimated market share that the company captures on the Russian factoring market? <p>II. Information about the Reverse Factoring products of the company</p> <ol style="list-style-type: none">1. When did the company start to offer Reverse Factoring products?2. What is the share of Reverse Factoring in company's operations (in terms of number of transactions and in terms of monetary volume of transactions)?3. What are the benefits of Reverse Factoring for you, as a factoring provider, and for your customers?4. To which industries do your clients, that use Reverse Factoring, mostly belong? What industries use Reverse Factoring the most? <p>III. Reverse Factoring market in Russia</p> <ol style="list-style-type: none">1. How big is the demand for Reverse Factoring products among Russian companies nowadays from your estimation?2. What do you think about the future potential of Reverse Factoring in Russia? What will be the trend?3. How does current economic situation (e.g. interest rates, currency fluctuations etc.) influence the development of Reverse Factoring market in Russia? <p>IV. Influence of Technological factors</p> <ol style="list-style-type: none">1. What technological innovations facilitate usage of Reverse Factoring in Russia and how?2. Do you see any challenges for Reverse Factoring development in Russia from the side of IT technologies in the nearest future? <p>V. Influence of Legal factors</p> <ol style="list-style-type: none">1. How is Reverse Factoring regulated in Russia?2. What barriers for Reverse Factoring development in Russia do you see in terms of legislation?

2.2 Methodology for cross-case analysis

Cross-case analysis is the central part of the research. During this analysis our aim is to look at the SCF (Reverse Factoring) implementation on the corporate level, and identify challenges, requirements and benefits of using these instruments in Russian supply chains.

2.2.1. Study design

In accordance with the stated research problem and research questions, the process and results of SCF implementation are in the focus of our study. So, we are putting buying companies in the center of attention, and conducting analysis from the buying firms' perspective. Therefore, in this research we consider and elaborate several cases of buying companies that use SCF, instruments in their operations.

Primary data for the case analysis are collected in the form of semi-structured interviews with representatives of the companies. By using semi-structured interviews we ensure comparability of data gathered from different companies, but at the same time we do not constrain ourselves by the strict set of questions. Secondary data sources for case companies, like companies' websites, articles, and annual reports are also used.

Additionally, quantitative information about the companies is gathered from financial statements. Comparison of financial indicators before and after implementation of SCF program will support our qualitative information about the results of SCF implementation, gathered from interviews. Thus, it will contribute to the third research question.

The interview guide was constructed based on the literature on SCF. It consists of four blocks of questions: information about the characteristics of SCF program implemented in the company, process organization, implementation challenges, and benefits of SCF (Table 7). Covering these topics during the interviews we have receive sufficient data for answering our second and third research questions.

Table 7. Semi-structured interview guide for case study

I. Information about the SCF program
(Iacono, Reindorp & Dellaert, 2015)

1. Description of the SCF program: price, volume of financing, extension of payment terms, other conditions
2. Who is your SCF provider and why?
3. When did you start to use SCF program? And on what stage of implementation is the company now?
4. Why did you decide to use SCF? What is the main reason/driver?

II. Process organization
(Siefert & Siefert, 2011; Wuttke et al., 2013; Wuttke, Blome & Henke, 2013)

1. What do you need to adjust internally for SCF implementation?
2. What is the role of top-management? Who leads the implementation process, who is responsible?
3. What is the role/ involvement of suppliers in the process? How can you support suppliers in the process?
4. What is the role/ involvement of SCF providers in the process?

III. Implementation Challenges
(More & Basu, 2013; Hofmann & Belin, 2011)

a) Did you experience Internal challenges connected with:

1. Accounting/Finance
2. HR (e.g. Lack of skilled personnel and training on SCF tools; Lack of knowledge and information among SC managers about SCF programs)
3. Information Technologies (e.g. Lack of IT experts to support; Lack of adequate IT system; Lack of automation in the payment processes)
4. Legal aspects
5. Coordination of departments inside of the company (e.g. pressure from top management to achieve KPI)

b) Did you experience External challenges connected with:

1. SCF Regulations
2. Inter firm Coordination in supply chain
(e.g. Lack of trust from suppliers; Lack of common vision among SC partners; Difficulty to convince suppliers to participate in SCF program; Lack of communication between parties)

IV. Benefits from SCF implementation
(Siefert & Siefert, 2011; Demica, 2013; ACCA, 2014; Protopappa-Seike & Seifert, 2010; Wuttke & Blome, 2013; van der Vliet et al., 2013)

a) Quantitative

How did the following indicators in the buying company change after the SCF implementation:

1. Liquidity ratio
2. Working capital
3. Extension of payment terms

b) Qualitative

How did SCF implementation influence the company in terms of:

1. Transparency
2. Suppliers relations
3. Supply Chain risks, e.g. risks of non-supply (stability of production process)
4. Financial stability

c) Did your suppliers benefit and how? (e.g. Reduction of cost of capital for suppliers; decrease of DSO; decrease of inventory level)

d) Who else benefited and how? (e.g. SCF providers, other parties)

The design of our research study ensures construct validity, internal validity, external validity and reliability, which are necessary attributes of qualitative research process development (Yin, 2009; Sounders, Lewis & Thornhill 2009).

For providing construct validity of the research, first, we use multiple sources of information. The main source is semi-structured interviews of buying firm's representatives; however, for elaboration of the cases secondary sources like articles, company's annual reports and websites are used. Secondly, the structure of the interviews is derived from the analysis of the relevant literature; and open questions help to avoid the speculation on the answers of respondents. Finally, the confidentiality of the companies' data is assured.

As for internal validity and reliability of the research process, the contact persons for the interviews are managers of purchasing, logistics or financial departments that have direct relationship to SCF implementation in the companies; and therefore, they are the most knowledgeable sources on the topic of interest.

The external validity of our research is assured by using multiple case studies. Moreover, the criteria chosen for case selection increase the possibility of generalization of results, and therefore, strengthen the external validity of the research.

2.2.2. Case selection and data collection

For qualitative multiple case study 3 companies were taken. In order to choose companies for case study analysis we have identified several selection criteria. First, the companies of the interest are Russian buying firms who are implementing, using SCF or used it in the past. And, as it was mentioned before, here we are focusing on one of the SCF instruments called Reverse Factoring.

Also, while selecting the companies, it was very important to identify, what can be considered as Reverse Factoring and what is not, since there is no common term or common understanding about different SCF practices among companies. So, it could be the case that the instrument used by the company suited main characteristics of Reverse Factoring but was called differently. Therefore, we defined that any financial solution, initiated by the buying firm (buyer-centric instrument) for financing its suppliers' receivables, which involves the financial intermediary (bank or factoring company), could be considered as a form of Reverse Factoring, and could be relevant for our analysis.

Additionally, we are focusing only on the companies of a large size. This limitation is relevant for our research because it provides comparability of data; moreover, SCF instruments are primarily expected to be implemented by big buying companies (Wuttke et al., 2013).

Next, industry aspect was taken into account. According to the information gathered from Russian SCF providers, production companies, especially manufacturers of food and other consumer goods, are very common users of Reverse Factoring products in Russia. Therefore, we focused on the FMCG companies, as the most typical representatives, in order to increase the possibility of results generalization and, consequently, to improve external validity.

Finally, in our set we also included the case of the company, who used Reverse Factoring solution in the past but refused to continue this program anymore. Consideration of such cases will help to avoid biases and overly optimistic view on SCF.

The main source of the case selection for our research was Reverse Factoring providers, as they have access to the companies of our interest.

Summary of Chapter 2

Second chapter covers the detailed methodology for both parts of the research: macro-level analysis and cross-case analysis. Macro-level analysis plays role of the preparatory stage before cross-case analysis. For the macro-level analysis we described methods and frameworks suitable for analysis, identified relevant sources of information, constructed the semi-structured interview guide for collection of experts' opinions, and elaborated the process of selection of respondents for interviews. For the cross-case analysis we described the process of case selection and data collection that will ensure validity and reliability of the research.

CHAPTER 3. MATURITY GRADE OF SUPPLY CHAIN FINANCE APPLICATION IN RUSSIA: EXPERT EVALUATION OF REVERSE FACTORING

In order to evaluate whether SCF (Reverse Factoring) has reached its maturity on the Russian market we will first look at the supply and demand for this instrument and its substitutes. It will help us to feel how big the market of SCF in Russia is, and what the peculiarities of SCF solutions in Russia are. Next external factors, which are influencing the development of this instrument most strongly, will be analyzed. The relevant information for analysis is gathered from expert interviews with banks and factoring companies (selective quotes from interviews with NFC, Promsvyazbank, and VTB Factoring will be shown in the text) and from secondary sources, like official bulletins of Association of Factoring Companies or official websites of banks and factoring companies.

The results of primary data gathering are presented in the table below:

Table 8. Results of primary data collection for macro-level analysis

Company/ Contact person	Time spent to reach out the relevant contact person	Interview type	Number of interviews	Interview longevity
Promsvyazbank/ Deputy Manager of Factoring Department of Promsvyazbank	3 days	Face-to-face interview	1	1 hour
VTB Factoring/ Head of Saint-Petersburg department of VTB Factoring	1 week	Phone interview	1	50 min
National Factoring Company (NFC)/ Manager of Saint Petersburg department of NFC	1 month	E-mail interview	1	-

Source: Created by author

3.1 Supply side: Reverse Factoring providers

On the Russian market such product as Reverse Factoring is offered by factoring companies and banks. There are about 30-40 main players on the Russian factoring market; and nowadays many of them have some version of Reverse Factoring product in their portfolios, while even 5 years ago only 4-5 companies could provide this service (AFC, 2016).

In general, we distinguished two different segments, two different types of Reverse Factoring products on the Russian market. Banks are mostly targeted on Reverse Factoring solutions for large-sized organizations; it is close to traditional understanding of Reverse Factoring scheme: “Big buyer – SME suppliers”. At the same time, factoring companies mainly offer Reverse Factoring for medium-sized enterprises, and here we have relationships of the type “Medium-sized buyer – suppliers”.

Moreover, on the Russian market Reverse Factoring is a product for financing local suppliers; cross-border SCF solutions are practically not presented in Russia. More than that, any cross-border factoring products are weakly developed in Russia: international factoring accounts for approximately 1% of turnover of the total factoring market (19,6 bln rubles out of 1733 bln rubles) (AFC, 2016).

According to experts’ opinions, the volume of Reverse Factoring is still not that big in comparison to other factoring products. However, there is no separate statistics on the volume of Reverse Factoring operations on the Russian market as it is hard to distinguish this instrument properly.

From interviews with experts leading providers of Reverse Factoring market were identified. All interviewed experts mentioned VTB Factoring, Promsvyazbank and NFC (National Factoring Company) as leading providers of Reverse Factoring solutions. What is more, NFC has the status of pioneer and innovator among factoring companies, who one of the first introduced this product to the mass market in 2010. Some of the experts also named Alfa Bank and Unicredit among strong players. As for Sberbank that entered the factoring market in November of 2014, it was mentioned as a potential rival; however, some experts tend not to consider it a strong competitor for the next couple of years: “*Sberbank Factoring entered the market in 2014 and its product portfolio has lots of flaws now. Many of their clients (mostly from client base of Sberbank) start working with Sberbank and then leave it in a month.*”

Leaders of the market estimate that the share of Reverse Factoring in their portfolios of factoring products is quite substantial in monetary value. Thus, for VTB Factoring it is about 25% of portfolio, while NFC estimates that 17,7% of the portfolio accounts for Reverse factoring operations. However, in terms of number of clients the volume of Reverse Factoring operations

is much less. Saint Petersburg subsidiaries of VTB Factoring and Promsvyazbank currently lead around 4-5 big Reverse Factoring projects, while for NFC about 15% of the clients are Reverse Factoring clients. For the rest of the players the volumes of Reverse Factoring in portfolios are even less. Moreover, the majority of operations are concentrated in Saint-Petersburg and Moscow, while development of any factoring products in regions is very low now. In general, approximate share of Reverse Factoring is estimated by factoring experts at 10-15% of the total factoring market in Russia. Therefore, it can be concluded that Reverse Factoring is not widely presented on the Russian market yet.

Furthermore, there are no unanimous standards for Reverse Factoring solutions on the Russian market: each provider has his own approach towards the instrument, and also it is always customized for the needs of each particular client. Thus, for example, NFC offers the scheme, where suppliers can receive up to 100% of the payment immediately after the shipment of products to the buyer, while the commission fee has to be paid by buyer. At the same time, VTB Factoring allows splitting the commission fee between supplier and buyer.

It was also noticed that different providers of Reverse Factoring have different views on the riskiness of this products. Thus, VTB Factoring considers Reverse Factoring as less risky than classic factoring in its portfolio: *“VTB Factoring is working with very large companies with high creditworthiness; therefore, the risks are transparent for this instrument. So, in case of Reverse Factoring practically all risks can be regulated in advance.”* However, surprisingly, experts from NFC and Promsvyazbank demonstrate the opposite position: for NFC Reverse Factoring is a product *“with high-risk component”*, Promsvyazbank also says that *“in Russia at the moment Reverse Factoring is more risky instrument than classic factoring product”*.

The position of NFC towards this instrument can be explained easily. The company targets small and medium enterprises (which is more risky), and finances deals starting from 50-100 thousands rubles. Therefore, in order to be profitable it sets high price for Reverse Factoring: 5-6 percentage points more than the price of such instrument in banks.

The position of expert from Promsvyazbank seems reasonable too if we take into account that prevailing form of factoring in Promsvyazbank, and in Russia in general, is “factoring with recourse” (when supplier has to compensate money to the factor in case of buyer’s nonpayment) (AFC, 2016). At the same time, Reverse Factoring is not secured by anything; thus, it can be perceived by financial providers as riskier instrument than factoring “with recourse”.

That is why on the Russian market, which is got used to the factoring “with recourse”, Reverse Factoring is not a cheap product. Promsvyazbank’s expert says also that *“prices for Reverse Factoring in Russia are rather comparable to interest rates on bank loans”*. Lower

prices are set by such providers as VTB Factoring or Citibank, whose Reverse Factoring solutions are not a mass product and are targeted on segment of large-sized organizations.

3.2 Demand side: Customers of Reverse Factoring

Next, SCF providers were addressed several questions which may help to understand who the typical users of SCF/ Reverse Factoring in Russia are.

Expert of VTB Factoring said: *“Reverse Factoring initially started from retail companies; however, for the last three years it has extended on other business segments like manufacturing. Now the main clients of Reverse Factoring for VTB are food producers and energy companies.”* Similar answers were received from other experts: all of them mentioned consumer goods manufacturers, especially food producers; NFC also listed producers of chemicals, construction materials and packaging materials.

These results are compatible with research on OECD countries. Researchers claimed that manufacturing as well as production of food, beverages, tobacco and chemicals are business sectors that can benefit the most from SCF solutions. These industries are characterized by long cash-to-cash cycles and high competition, the size of payment terms is critical for them; that is why, such companies should be most interested in SCF (Hofmann & Belin, 2011). The Russian market of Reverse Factoring is not an exception here.

As it was said in the previous section, Reverse Factoring clients in Russia are both large-sized and medium-sized companies. However, the interest for the instrument from large-sized companies is much less. *“The main problem is motivation: many large-sized companies don't need such instruments because they have enough bargaining power to force suppliers to work under their conditions. Large companies start to think about new financial solutions as Reverse Factoring if they have necessity in extension of payment terms.”* - said the representative of VTB Factoring.

It is also interesting to look at who initiates Reverse Factoring. All interviewees confirmed that companies, especially large-sized organizations, are usually not coming to financial providers; instead, financial providers come to the clients and suggest implementing this instrument. Some providers offer it only to their client base; others introduce the product to different potential customers. Thus, according to VTB Factoring, *“Reverse Factoring makes it easier for the bank to develop classic factoring solutions: thanks to Reverse Factoring the bank receives pool of suppliers, which can be potential clients of classic factoring in the future.”*... *“Factoring providers are tired of coming to small suppliers and to suggest products to each of them; Reverse Factoring is a good solution here.”*

Promsvyazbank's representative also said that *“Reverse Factoring allows to analyze deeply the client company and its suppliers and to be more confident about their creditworthiness. Then the bank will use this information to extend clients' base for other credit products”*.

For NFC Reverse Factoring is a high-risk product, and *“classic factoring is more interesting.”* However, *“the product gives an opportunity to run a client with good portfolio... therefore, the process of involvement of new suppliers is much quicker than if each supplier is invited, checked and coordinated separately”*.

Therefore, we can notice that Russian companies perceive Reverse Factoring not as a complex solution for ensuring health of their supply chains, but primarily as an instrument for extension of payment terms - this is the main motivator for consumers to use Reverse Factoring. It can be an indicator of lack of collaborative thinking about financial flows in Russian supply chains: companies mainly focus only on benefits for themselves, not on the benefits across the whole supply chain. So, the prevailing behavior of large companies is to push suppliers to extend payment terms, while they could achieve the same goal without harm to their supply chain by implementing Reverse Factoring solution.

3.3 Substitutes of Reverse Factoring

Reverse Factoring on the Russian market has to compete with plenty alternative ways of financing AR and AP: classic factoring, bank loans, invoice discounting, trade credit. However, all these instruments have their own nuances and purposes, so they can't be considered as perfect substitutes.

For example, invoice discounting, assumes that supplier sells some part of its total Accounts Receivable to the bank, but there is no transfer of rights from supplier to the bank: the buying company still pays its debts to supplier, and supplier then gives this money to the bank. Buying company at the same time shouldn't be even involved or informed that supplier sold some of its Accounts Receivables to the bank (Bryant & Camerinelli, 2013).

Classic factoring, in comparison to invoice discounting, includes additional services: for example, evaluation of creditworthiness of buying companies and management of Accounts Payable of the supplier. Moreover, when the supplier sells its Accounts Receivable to the financial provider, the transfer of rights occurs, and consequently, financial provider collects money directly from the buying company.

On the Russian market factoring “with recourse” is a prevailing factoring product because it allows factors to mitigate risks of nonpayment by transferring them on suppliers.

Factoring providers prefer to offer this product; by the end of 2015 it accounted for 55% of the factoring market, which is approximately 958 billion rubles out of 1733 billion rubles (AFC, 2016).

As for bank loans, unlike factoring products, they usually require collateral or guarantee of payment. The procedure of getting the bank loan is rather long and complicated; it includes thorough analysis of financial state of the company, while for factoring products the main attention is paid on the quality of Accounts Receivable of supplier. That is why many small suppliers experience difficulties with receiving loans from banks. However, credit products are the most understandable for Russian companies today and, therefore, the most usable. As a result, the volume of the bank lending market is much higher than the volume of factoring operations.

Accordingly, we can say that there is rather high bargaining power of substitutes, like classic factoring and bank loans, for Reverse Factoring on the Russian market, because the awareness about all nuances of Reverse Factoring is not widespread, and there is no common understanding of Reverse Factoring schemes, procedures, and risks, both among suppliers and customers. Instead, many companies prefer bank loans even if Reverse Factoring could be more beneficial: *“Not all companies are aware of advantages of Reverse Factoring over bank loan. Many of them habitually use simple bank loans, not even considering Reverse Factoring as an opportunity to raise capital with additional benefits.”*

3.4 Economic issues affecting SCF application in Russia

In general, the whole factoring market fell down in 2015 by 15% in comparison with 2014. Number of users of factoring products declined by 40%. Therefore, the main concern of factoring providers in 2016 will be stricter risk-management; all efforts will be directed not on growth but on retention of existing portfolios. Then, in 2016 the market is expected to recover and grow by 5-7 % (AFC, 2016).

During interviews, SCF providers were asked to estimate the future of Reverse Factoring and to describe how current economic situation affects specifically the development of the instrument. The answers given by interviewees demonstrated similar views on Reverse Factoring potential and barriers of external environment.

From the perspective of Promsvyazbank representative, Reverse Factoring is becoming riskier for Russian factoring providers due to the uncertainty in economic environment. It means that providers will toughen the requirements for companies who want to use Reverse Factoring; prices for such products as Reverse Factoring will also increase.

At the same time, the expert expects that awareness and interest for the product, which is rather low now, will be growing from year to year.

NFC looks on the situation the following way: *“By this moment the share of Reverse Factoring in company’s portfolio declined in comparison with previous periods of time because of the turbulence of external environment. The company had to refuse working with some clients on Reverse Factoring programs due to high risks. We substantially increased “the barrier to entry” for the companies who want to try this service.”*

Nevertheless, NFC expert also noted the growing demand for the instrument: *“Talking about the demand for Reverse Factoring, we are experiencing intensification of interest towards the product, especially from medium- and small-sized enterprises. These companies lack the liquidity for purchasing, but they cannot receive the extension of payment terms from their suppliers. Additionally, very often those companies, who had won a tender but didn’t have enough money for making a purchase, are searching for Reverse Factoring solutions. The interest for Reverse Factoring is facilitated by increasing complexity of access to traditional ways of financing, like bank loan or line of credit.”*

Additional reason for increase of demand for Reverse Factoring was mentioned by the expert from VTB Factoring: *“The demand for Reverse Factoring exists, and it will develop because now large companies are restricted in access to cheap foreign money. Consequently, large companies are going to their suppliers in search for financing resources.”* It means that due to financial sanctions Russian companies lost their cheap foreign sources of financing, which led to lack of liquidity. It can be an additional motivator for large companies to search for new ways and schemes of financing, among which Reverse Factoring can be very attractive alternative.

To sum up, current economic situation affects, first of all, the willingness of financial providers to work with risky products. Therefore, it can slow down the development of Reverse Factoring on the Russian market because of stricter requirements and higher prices. However, despite these restrictions, it is expected that the interest for Reverse Factoring will increase both from large- and medium-sized companies because of the specific economic situation and financial challenges that companies face nowadays.

3.5 Technological factors influencing SCF application in Russia

Reverse Factoring as any factoring product involves processing of big amounts of data. Therefore, it requires highly technological software for comfort interaction of all parties: buying

company, its suppliers, and financial provider. Nowadays, all factoring companies in Russia are investing a lot in development of their IT infrastructure.

One of the main technological innovations that facilitate the development of factoring and Reverse Factoring, in particular, is electronic data interchange (EDI). Since 2012 Russian law allows the usage of electronic digital signatures (EDS), and factoring companies are starting to involve them actively in their processes (Raexpert.ru, 2013).

Usage of legally recognizable EDS is not fully integrated in trading operations between companies in Russia yet, but it is already used in interchange of invoices. Interviewee from NFC confirmed that *“due to this technology, factoring provider will receive electronic invoices quicker, which accelerates the process of supplier financing”*. Such innovation will influence the speed of any factoring services.

However, Russian market is still dependent on paper-based documents. Electronic document flow hasn't substituted the usual document flow yet. It means that even when companies exchange electronic documents, later they need to send original documents too, otherwise operations are not possible. Therefore, now electronic document flow just helps not to postpone operations till original documents will be received.

For Reverse Factoring it is also critical to provide exchange of information between three parties. Nevertheless, experts don't see any challenges from this perspective. First of all, the number of providers of IT solutions for factoring, e.g. Corus, Edisoft, SKB Kontur, is growing. Moreover, Promsvyazbank representative claims that *“nothing special is needed for Reverse Factoring from technological viewpoint: if some system already exists, e.g. bank-client, it is possible to elaborate it for the purpose of three-way interaction”*.

Expert from VTB Factoring also agrees that by now all factoring providers have some kind of technological solution: from the easiest interchange of excel files to complex platform for electronic document flow. *“The only problem is whether or not clients are ready to work with these electronic platforms. For small companies it wouldn't be a problem to log in into personal account and upload some files. However, for companies with huge document flows (for example, for retail chains) the integration of company's system with platform of financial provider could be necessary. And it also can be complicated by security department of the company.”*

Summarizing above-listed points about technological development, it can be concluded that there is sufficient level of technologies to provide Reverse Factoring solutions on the Russian market; financial providers don't see any critical barriers. Nevertheless, mechanisms of electronic data interchange are not fully integrated yet; paper-based document flow still prevails

on the market. It indicates the room for improvement, which can facilitate further development of Reverse Factoring solutions.

3.6 Regulatory issues affecting SCF application in Russia

Factoring operations are poorly regulated on the Russian market. The only law on which the whole factoring market grounds is Chapter 43 of Civil Code of Russian Federation “Financing against the Assignment of a Monetary Claim”. These regulations have not been changed since 1996, when the second chapter of Civil Code came into force.

The term “factoring” doesn’t exist in this law; moreover, there are no unanimous standards for factoring products. That is why we can see high variability of schemes that differ from one financial provider to another. For example, for Reverse Factoring services Promsvyazbank signs tripartite agreement between buyer, supplier and factor; VTB Factoring signs a contract with supplier; while NFC usually has agreements only with buying companies. However, sometimes it can be hard to justify from the legal point of view the scheme, when commission is paid by the buying company, because the actual service – getting the financial resources – is received by supplier. And for factoring providers facing such controversial situations is a normal practice.

In order to improve regulation of the factoring market, in 2007 the Association of Factoring Companies (AFC) was established. By now this professional community includes 21 main factoring providers, both banks and factoring companies (<http://asfact.ru>). The role of this community is to develop unanimous principles and approaches concerning different factoring instruments on the Russian market. Thus, due to the AFC’s activities, many arguable aspects in factoring have been already regulated. Nevertheless, there are many nuances that are not covered yet; for example, the problem of counterclaims in factoring.

During the interviews, experts were asked to highlight main regulatory challenges particularly for usage of Reverse Factoring in Russia.

First, the representative of VTB Factoring mentioned a problem of big volume of documentation flow arising on the stage of initiation of Reverse Factoring operations: *“In fact, according to law, factoring provider can’t have contractual relationship with debtor; all contractual relationships should be built with suppliers. Therefore, a separate package of documents on every supplier is needed. And the size of the package can vary, depending on the type of organization.”*

Next, all experts agreed that a very substantial constraint for the factoring market, and for Reverse Factoring in particular, is regulations in the sphere of public procurement. Federal

Procurement Laws (44-FZ and 223-FZ) prohibit any changes into public contracts, which means that the change in a contracting party to a procurement contract is not allowed (<https://www.consultant.ru>). It makes factoring operations impossible for public companies because in such operations there is a switch from one of the contractual parties to factoring provider.

Currently AFC is working on the issue of factoring operations in public procurement, and players of the market expect that factoring for public procurement will be available soon. Then, it will noticeably influence the development of the factoring market because the market of public procurement is gigantic in our country; so, it is a big potential field for factoring companies.

Other legislative barriers for Reverse Factoring are connected with Value-added tax (VAT) in factoring operations. According to Promsvyazbank's expert, *"In Russia all commission fees are taxable; so, in Reverse Factoring interest rates for suppliers also include VAT. However, not all suppliers can offset or reimburse this VAT; about 30% are not eligible to claim a VAT refund. As a result, for some suppliers the interest rate of Reverse Factoring can be substantially high, and they may refuse to participate in Reverse Factoring program."*

"If commission is to be paid by buyer, the situation with payments and VAT can be much more difficult" - claims the expert from VTB Factoring. For example, VTB Factoring cannot charge the commission fee directly from buyers because the contractual agreements are set between the factor and suppliers. Thus, additional trade credit agreement can be established between the factor and the buyer, and only then the factor can charge the commission fee from the buyer and include VAT in the price.

To sum up, the legal base for Reverse Factoring is not sufficient enough; there are lots of nuances which are not elaborated and agreed in laws yet. Existing legislation restricts and slows down the development of Reverse Factoring solutions on the Russian market. Therefore, the potential for improvements can be huge, especially in a considerable and promising area of public procurement.

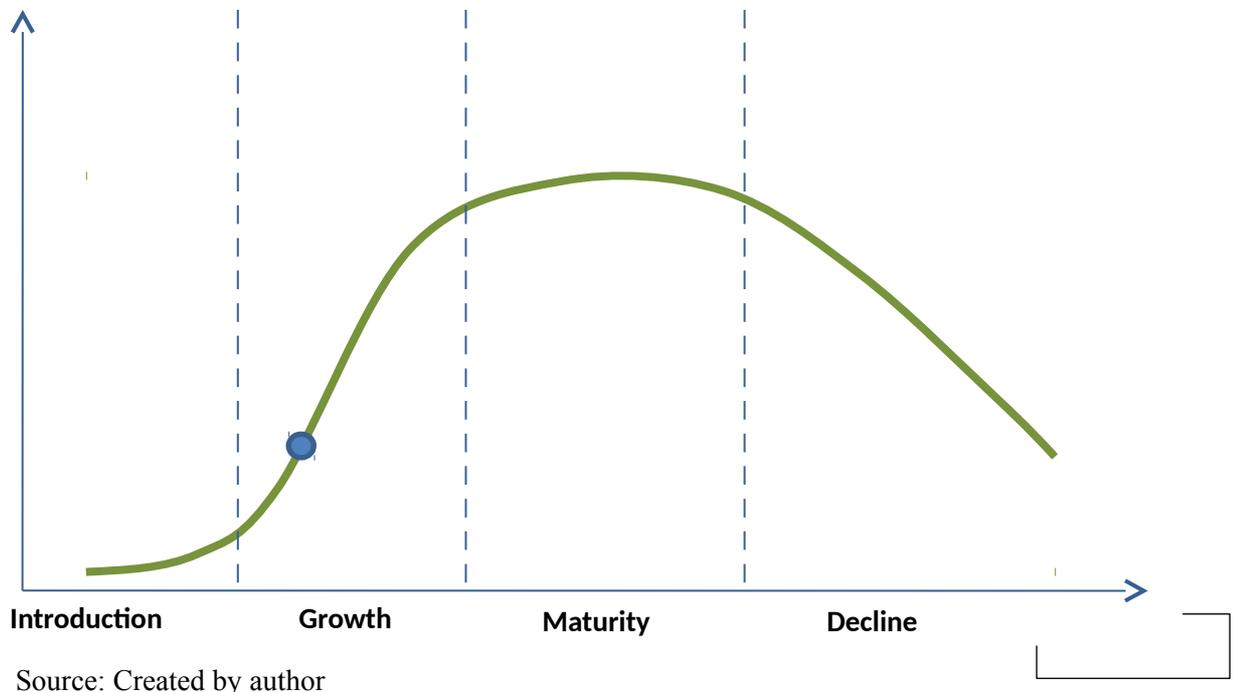
3.7 Conclusions on maturity grade of SCF in Russia

Based on the information and opinions, gathered from experts, we have analyzed different parameters of the Russian SCF (Reverse Factoring) market, and now we can make conclusions about the maturity grade of SCF in Russia.

Industry/ Product life-cycle model usually includes the following stages: introduction, growth, maturity, and decline. According to this model, we can put SCF on the stage of Early Growth (Figure 4), which started approximately 5 years ago.

Figure 4. Maturity grade of SCF in Russia

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The following factors allow us to make such conclusions about SCF in Russia:

- First of all, more and more banks and factoring companies are starting to offer such products as Reverse Factoring, or Supplier Finance in their portfolios. Nevertheless, still there is lack of standardization, lack of understanding of all risks by financial providers because the Russian factoring market is got used to schemes “with recourse”, while Reverse Factoring is without recourse. Therefore, in general, Reverse Factoring is a pricey instrument.
- The awareness about the product is growing. The main demand for Reverse Factoring is from medium-sized companies, who need extension of payment terms. At the same time, large companies, for whom ideally this instrument is designed, are less active.
- Reverse Factoring is mainly perceived as an instrument for extension of payment terms of the buyer, not as a complex solution for the sustainability of the whole supply chain, like it intended to be in theory.
- Russian companies lack collaboration with their supply chain partners in terms of financial flows; they focus on their individual issues, rather than on bigger picture of the whole supply chain. Thus, they don't fully realize the purpose of SCF and don't see the necessity.

- Still companies are giving preference to more common and understandable financial instruments, such as bank loans.
- Technological development is well enough to support Reverse Factoring activities. However, it is not that advanced as, for example, in European countries.
- The government doesn't have proper mechanisms for regulation of factoring instruments, and Reverse Factoring in particular. Therefore, there are challenges and ambiguity from the legal side.

Additionally, to support the conclusion about the maturity grade of SCF in Russia, we will look at some quantitative evidence. As it was estimated before, Reverse Factoring takes about 15% of the Russian factoring market, according to experts' opinions. The total factoring portfolio at the end of 2015 accounted for 260,4 billion rubles (AFC, 2016). Thus, it gives us an estimate of Reverse Factoring's volumes: $260,4 * 0,15 = \mathbf{39,06 \text{ billion rubles}}$.

On the other hand, by the end of 2015, the total amount of Accounts Payable outstanding in large, not state-owned companies from manufacturing and wholesale (which is a typical portrait of potential user of Reverse Factoring) is approximately 20750 billion rubles³. Comparative to this number the current volume of Reverse Factoring (the amount of Accounts Payable financed with Reverse Factoring) is insignificant. Thus, it indirectly indicates the low penetration level of this instrument in Russia.

So, the market of SCF in Russia is on the development stage. Last year the speed of growth decreased because of deterioration of economic situation, but according to interviewed experts, the development of the instrument will continue in the future.

By now, Reverse Factoring cannot be applied in Russia at the same form and to the same extent as in developed countries. Majority of Russian companies are not prepared to collaborative financial supply chain management yet; moreover, the market is restricted by the level of technological development and legal challenges. Therefore, improvements in these spheres can be drivers of SCF market in the future: for example, technological advancements in the usage of EDI, proper regulation of Reverse Factoring issues concerning contracting, taxation, counterclaims, or allowance of factoring for public procurement.

³ Author calculations: This amount was calculated by summarizing AP of all large-sized, not state-owned companies from manufacturing and wholesale industry in Russia. The sample included all companies from SPARK database, which met the above-mentioned criteria; in total the sample consisted of 13418 companies.

Summary of Chapter 3

The third chapter was devoted to the evaluation of the maturity grade of SCF (Reverse Factoring) on the Russian market, which covers the first research question. We looked at the different aspects of the market (supply, demand, substitutes, and economic, technological and legal issues) in order to understand how widespread the instrument is, who its typical users are, what the main peculiarities of external environment are, and what external challenges restrict the development of SCF on the Russian market.

The results of the analysis give us understanding of the environmental context, which is important for the next step: analysis of SCF from the corporate perspective. Thus, in the next chapter we will consider particular examples, how Russian companies are implementing SCF solutions in conditions of developing market and multiple restrictions of external environment.

CHAPTER 4. CROSS-CASE ANALYSIS ON SUPPLY CHAIN FINANCE IMPLEMENTATION IN RUSSIAN SUPPLY CHAINS

In the previous chapter we looked on SCF (i.e. Reverse Factoring) in Russia from external point of view. So, the understanding of the environmental context of SCF in Russia was formed, and external challenges that restrain SCF development were identified.

On the next step it is interesting to consider the process of SCF implementation from the company's perspective, to observe how external constraints of the market are transformed into internal challenges for Russian companies. Thus, we are to examine particular cases on implementation of SCF (specifically, Reverse Factoring) solutions in conditions of developing market and multiple restrictions of external environment.

For cross-case analysis three large Russian companies of FMCG sector were chosen. The focus on large companies is justified: in its "classical" understanding SCF is the instrument for large-sized companies; moreover, focus on large companies will ensure comparability of our findings with previous researches, which are primarily focused on large-sized companies as well.

One of the case companies launched SCF program in 2007, and is still using it; the second company was using SCF from 2012 till the end of 2014; the third case is the company, which is only at the very beginning of the way and is planning to officially start SCF in 2016.

For analysis of case studies we will use the model of SCF adoption offered by Wuttke et al. (2013). This model shows main stages of implementation of SCF (Figure 5). So, it will be used as a framework for our analysis, as we will consider what challenges Russian companies face on different stages of implementation and what requirements for SCF implementation can be derived from these challenges.

Figure 5. SCF Innovation adoption model



Source: Wuttke et al. (2013)

Primary data for these cases was collected from in-depth interviews with companies' representatives from finance or procurement departments. The results of data collection are provided in the table below (Table 9). Moreover, multiple secondary sources - articles,

companies' websites, and databases – were used. Due to confidentiality reasons names of the companies cannot be disclosed in this research.

Table 9. Results of primary data collection for case studies

Company	Contact person(s)	Time spent to reach out the relevant contact person	Interview type	Number of interviews	Interview longevity
Company Alpha (FMCG/ food processing)	• Senior trade finance product manager	1 month	Skype interview, Email interview	2	45 min
Company Beta (FMCG/ chemical industry)	• PtP Process Manager; • Treasurer	2 month	Email interview	2	-
Company Gamma (FMCG/ food processing)	• Commercial Operations Manager	1,5 month	Phone interview	1	30 min

Source: Created by author

4.1 Company Alpha

Company's profile

Company Alpha is a Russian subsidiary of multinational packaged food company, which entered the Russian market in 1995 through acquisition. For many years the company places the leading position on the markets of prepared food, coffee, baby foods, and ice-cream. Now the company owns 8 factories and 10 regional sales offices on the Russian territory.

The company has a huge pool of suppliers, not all of which are managed centrally. The company's suppliers include gas and energy providers, who are monopolistic companies. Also, Alpha competes with other food producers for supply of dairy, glass, sugar, and other important for production raw materials. Additionally, the company purchases other supplemental materials like paper or aluminum foils.

Alpha has high requirements to its suppliers: it established the Code of suppliers, which contains minimum environmental and quality standards. Moreover, the company focuses on building strong long-term relationships with suppliers.

In 2007, when Alpha started to implement SCF solution, the company had non-standardized payment terms with its suppliers: Alpha had to manage more than hundred different

payment terms simultaneously. Moreover, in 2007 the culture of quick payments existed on the market; for food industry it was not unusual to pay suppliers in 7 days after shipment, for example. Longer payment terms were combined with pre-payments.

Now the payment behavior is different. According to the survey of Instrum Justitia Group on European payment index, in Russia in 2014 about 27% of payments were received between 30-90 days, and 20% were made after more than 90 days. Also, the volume of bad debts and late payments increased in the last years: the average delay on payments is 19 days (Instrum Justitia Group, 2014).

SCF program description

Alpha officially started SCF program in 2007, and it is still actively using it. The suggestion to use Supplier Finance program came from Alpha's headquarters. The global CFO initiated financial transformation in order to improve working capital performance and procure-to-pay process in the company. The opportunity to use SCF was very attractive for the Russian subsidiary because it offered an opportunity to improve working capital position not at the expense of suppliers, and to leverage the AAA credit rating of the company.

For implementation of supplier financing program, Alpha chose the big international bank as a financial provider. The criteria for choosing the bank were its financial strength, technological advancement and interest in long term-partnership with Alpha.

The SCF program is without recourse; so, suppliers don't have to pay to the bank if Alpha didn't make its payments on time. The commission fee has to be paid by supplier; the size of commission is based on the high credit rating of Alpha (in 2015 Alpha received AA+ credit rating).

Also, the SCF program provides the company with extended and standardize payment terms. Thus, in 2007 the company extended payment terms to 30 days; now this numbers are higher.

By now approximately 20 suppliers are involved in the program. The interaction of parties of SCF program is organized with help of "Bank-Client" system, provided by the bank. Therefore, no investments in separate IT system for SCF solution were initially needed from Alpha. Also, the contracts are signed only between the bank and suppliers about provision of financing services.

It can be said that Alpha is on the routinizing stage of SCF adoption process, according to innovation-adoption framework of Wuttke et al. (2013). The company has been using the

Supplier Financing program for almost 10 years already, all procedures are settled and the stage of active onboarding of suppliers is over.

4.2 Company Beta

Company's profile

Company Beta is a Russian subsidiary of multinational FMCG company that produces household chemicals. Beta is operating in both consumer and industrial sectors and focuses on three business segments: beauty care, laundry & home care, and adhesive technologies. The company positions itself as a leader in technologies and innovations.

The company has been operating on the Russian market since 1990s; by now it owns 9 factories and 15 offices all around the country and employs more than 2,000 people. Russian market is 4th biggest market for Beta.

Supply planning, procurement of raw materials for production, maintenance of current balances in warehouses are centralized in Moscow headquarters of the Company Beta. The company works with both foreign and local suppliers. All procurement can be divided into 2 groups: procurement of direct materials and services, which are directly connected with production, and purchasing of indirect materials and services, which support production of finished goods (e.g. IT services, logistics, marketing).

The company pays a lot of attention to building close long-term relationships with suppliers in order to ensure high quality standards, efficiency and sustainability. Moreover, since 2009 for all Beta's suppliers worldwide it is obligatory to comply with Code of Conduct, which is based on principals of the United Nations Global Compact – international corporate sustainability initiative.

In 2011, just before Beta started its SCF program, the market had been recovering after the crisis and demonstrating significant growth: the average revenue growth of 400 biggest companies in Russia was 20% (Raexpert.ru, 2011). Beta, at the same time, reported strong financial performance and high growth rate in all 3 business segments. It captured around 16% of Russian chemicals market and 5,3% of Russian beauty & care market.

SCF program description

Company Beta officially launched their Supplier Finance program at the beginning of 2012. This program was offered to Beta by the big international bank, which already by that moment had been the main financial partner of Beta with long history of partnership.

However, in October 2014 Company Beta stopped the SCF program. The reason for closure of the program was the change of bank's terms. The bank required Beta to provide additional security in the form of guarantee, which contradicted the company's internal policy. As the company had decided not to provide any guarantees, the SCF program was closed.

So, from 2012 till the end of 2014 Company Beta was working with part of its suppliers under the terms of SCF program. The number of suppliers financed by SCF was around 20. The program allowed Beta to extend payment terms to 90 days, while before the program each supplier had unstandardized payment terms from 45 to 60 days.

The total financial limit of SCF program, established by the bank, was approximately 350 million rubles per month with overall size of company's payments to suppliers of 4-5 billion rubles a month. It means that the company was financing around 7 - 8,75 % of its monthly payments to suppliers with SCF program. The limit of financing for each particular supplier, participating in the program, was proportional to the volume of shipments of this supplier to Beta.

The Supplier Financing program of Beta was without recourse, so the risk of Beta's non-payment was fully on the bank; suppliers were not responsible for the payment behavior of Beta. At the same time, the commission fee had to be paid by supplier. The size of this commission fee was always changing through time, depending on market conditions. The bank was calculating it as a MosPrime rate⁴ plus 2-3% margin, which was based on Beta's credit rating. During the period of SCF usage Beta had a credit rating A.

All interactions of the company, its suppliers and the bank were organized on the basis of existing Bank-Client system. Beta had already been connected to this system because it had been a client of the bank before the implementation of SCF solution. Therefore, Beta didn't have to invest in IT infrastructure for SCF solution.

Moreover, the bank had contractual relationships only with suppliers: at the beginning suppliers signed with the bank the notification of assignment of monetary claim, plus provided the bank with approval of notification by Beta.

By 2014 the company had already achieved the stage, when the program is restructured and redesigned to the needs of the company, important suppliers are involved in the process, SCF is operating on the daily basis in the company. So, it can be estimated that before SCF closure Beta had achieved the routinizing stage of SCF adoption process, according to the framework of Wuttke, et al. (2013).

⁴MosPrime rate is an independent indicative rate, which is calculated as an average interest rate for Russian ruble bank loans and deposits on the Russian money market.

4.3 Company Gamma

Company's profile

Company Gamma is a Russian subsidiary of large well-known multinational food and beverages producer, which operates in 4 food-processing business segments. The company is presented on the Russian market since 1991.

Nowadays, Gamma has 13 factories in Russian regions, and the company is continuing the active development on the market. During more than 2 decades the company invested more than 1 billion dollars in the Russian market. In spite of the current crisis Gamma plans to stay on the Russian market and offer all types of its products, without the decrease of assortment.

One of the key values of the company is quality of its products; moreover, the company supports sustainability concepts, trying to decrease negative impacts on the environment and cutting energy expenditures. Therefore, it strengthens the requirements for suppliers.

By now Gamma purchases more than 80% of necessary materials locally, from Russian suppliers. Thus, the supplier base accounts for approximately 200 Russian companies.

SCF program description

Company Gamma is only on the early stage of SCF adoption. The official launch of SCF program for suppliers is planned in the middle of 2016.

The company first found out about the existence of such programs only couple of years ago, mostly thanks to implementation of SCF solutions in other foreign subsidiaries. Then, when the company found the attractive tariffs on the market, it started the process of SCF adoption. As the company's representative said, the reason of delay in the initiation of SCF program is "*the necessity to reach an agreement on the global level, to elaborate the uniform approach to supplier financing with this instrument*".

By now the company has already approved the initiative and established the cross-functional team consisted of financial, commercial and legal departments, which is working on elaboration of internal regulations concerning SCF program now. The company is actively using experience of other foreign subsidiaries, which have already implemented the SCF solution.

According to the innovation adoption model, adapted by Wuttke et al. (2013) for the process of SCF adoption, Gamma is on the stage of redefining and restructuring. It hasn't started the involvement of suppliers yet; conversely, it is on the stage of setting the regulations and redesigning SCF according to its needs and legal nuances.

The overview of individual cases and their characteristics is summarized in the Table 10.

Table 10. Case overview

	Alpha	Beta	Gamma
Size	Large	Large	Large
Company's type	Russian subsidiary of multinational company	Russian subsidiary of multinational company	Russian subsidiary of multinational company
Industry	Food & Beverages	Chemicals	Food & Beverages
Facilities in Russia	8 factories, 10 regional sales offices	9 factories, 15 regional sales offices	13 factories, 14 regional sales offices
Official launch of SCF program	2007	2012	2016
Commission fee	Paid by supplier	Paid by supplier	-
IT software	"Bank-client" system	"Bank-client" system	-
S&P's Rating	AA+	A	N/A
Number of suppliers financed with SCF	20 (10% of supplier base)	20	-
Volume of financing	N/A	350 mln. rub. monthly, approx. 8,75% of total payments to suppliers	-
Stage	Routinizing	Routinizing (closure)	Redesigning/ Restructuring

Source: Created by author

4.4 Findings and discussion on SCF implementation in Russian companies

After looking at each case separately, we are to continue with cross-case analysis, trying to find patterns across the chosen cases. Now we will consider the implementation process, particularly focusing on challenges along the stages of implementation (initiation, redesigning, clarifying and routinizing stages) and benefits, which will give us indication of the potential of such instrument in Russia. From identified challenges we will derive requirements for successful implementation (factors that influence the speed and effectiveness of SCF implementation).

The time frame of each case is different; the time difference between SCF implementation of cases is approximately 4-5 years. However, common patterns in SCF implementation can be derived.

State of maturity of SCF market between 2007, 2012 and 2016 slightly differs. In 2007 SCF was totally new practice, very few providers were offering such solutions, the awareness was low, and processes were unknown. In 2012 the awareness about the product was already higher, technological level of banks and factoring companies improved which allowed more providers to offer SCF products. Moreover, electronic document flow became legally significant in 2012, and till now innovations in EDI occur constantly. 2016 is different in terms of

unfavorable economic situation. Still the maturity grade of SCF market remains low for all cases and characteristics of the SCF market are comparable. So, time effects will be taken into account, where necessary, while comparing cases.

4.4.1 Initiation stage

Initiation stage includes agenda setting and matching (Wuttke et al., 2013), when the company finds out about the possibility to use SCF solution, discusses the opportunity to implement it and makes the final decision about implementation.

Here it is interesting to look firstly at the reasons why companies initiate SCF. So, the motivation of Russian companies was analyzed.

Motivation

There is an interesting difference among cases: Beta started SCF program after its Bank came and suggested to try this instrument, while for Alpha the initiator was the company's CFO. So, Beta's solution came from outside, the company itself didn't feel the necessity in SCF; but for Alpha it was the internal idea, the company deliberately was searching for new financial solutions. Company Gamma also initiated the program by itself, after learning the similar practices in other foreign subsidiaries. However, for Gamma it is "*not the 1st priority project*", which explains their slow decision-making process concerning SCF implementation: Gamma started to discuss the SCF opportunity about 2 years ago.

All companies were asked what their main reason for SCF initiation was. The main motivator for Alpha was **improvement of working capital performance**, while Beta and Gamma highlighted the **extension of payment terms** as a main driver. Both motives are similar in nature: companies in making decision about SCF implementation were focused only on their individual working capital issues. It supports our first findings, concerning motivation, received in the macro-level analysis.

Also, it indicates the difference between Russian companies and companies on developed markets. According to the research conducted among top 40 European banks, the main drivers for SCF in mature economies are working capital optimization and minimization of overall supply chain risks (Demica, 2012).

However, Russian companies didn't mention risk minimization as a driver to use SCF. It can be an indicator that Russian companies focus only on themselves, but not on the performance of their suppliers. The other possible explanation is that companies underestimate

risks in their supply chains due to the big size of their supplier base; therefore, they mistakenly may not consider supply chain stability as an issue for them.

Taken into account that main driver for all companies was connected with working capital (WC), we also compared the WC performance of these companies before SCF implementation. WC performance shows how effectively the company manages all components of working capital: Days Payable Outstanding (DPO), Days Sales Outstanding (DSO), and Days Inventory Outstanding (DIO). The widely used measures of WC performance are: 1) Cash Conversion Cycle (CCC), which indicates how long cash is locked in the inventory before it is sold and money are paid back by the customer, and 2) WC ratio, the indicator of company's liquidity.

In 2005-2006 Company Alpha had poor working capital performance in comparison to its main competitors on the market. *“Managing all aspects of WC was not a part of Alpha's culture”*; moreover, *“day-to-day activities concerning WC management were focused mainly on DIO and DSO, while DPO part was usually overlooked”*. Alpha also had an inefficient procure-to-pay process because of *“complexity in reconciliation of purchase orders and supplier invoices”*. Additionally, Alpha had a slow collection of Accounts Payable from its clients, which resulted in high values of CCC and WC ratio.

On the contrary, Beta and Gamma can be characterized as companies with strong WC position in comparison to their competitors. They had low CCC, which indicates that on average they received payments from customers practically at the same time or even earlier than they had to pay to their suppliers (**Appendix 1**). Thus, in 2011 the values of DPO and DSO for Beta were 80,9 and 26,1 days respectively, while industry average DPO and DSO equaled to 53,6 and 78,8 days (PWC, 2012). Similarly, Gamma's CCC is much lower than the industry average CCC of 60 days (PWC, 2015).

One more important fact to take into account is that Alpha has been using SCF program for practically 10 years by now, while Beta closed SCF program in 2014 because the bank requested for additional guarantees, which company was not willing to provide. So, the company preferred to close the program, to lose all the benefits. And now Beta has to make payments for each supplier's bank separately, under different conditions, which increases the volume of administrative burden.

Probably, Beta was not considering it as a big loss because it had a strong working capital position and strong relationships with suppliers already before SCF implementation. Beta tried SCF program because it was just an interesting financial solution, offered by the bank; but Beta never considered SCF as a strategic tool for optimization of supply chains.

All evidences related to the aspect of motivation considered above are summarized in the Table 11:

Table 11. Motivation for SCF initiation

	Alpha	Beta	Gamma
Main motive	Improvement of WC performance	Extension of payment terms	Extension of payment terms
Initiator of SCF	Internal (CFO)	External (Bank)	Internal (Finance Dpt)
WC performance before SCF	Poor	Strong	Strong
Importance of SCF for the company	Contributing to companies WC objectives	No strategic importance for supply chain	“Not a 1 st priority”

Source: Created by author

These evidences support the information, that we received from expert interviews before, and allow us to make the following conclusions:

The main motivation for the companies to apply SCF is resolution of their own problems, improvement of their own performance, but not the needs of the whole supply chain. So companies, who don't experience any problems with their own working capital position, are less likely to see the necessity in SCF application and to be initiators of SCF.

Therefore, we can formulate the following propositions:

Proposition 1a: *There is lack of coordination and collaborative thinking concerning financial flows in Russian supply chains.*

And as a consequence of the first proposition:

Proposition 1b: *The companies with weaker working capital position are more likely to be interested in SCF implementation.*

Proposition 1 supports the results of one recent research that one of the main challenges for SCF is lack of common vision among supply chain partners (More & Basu, 2013).

Proposition 2 corresponds with results of the study on European companies (Wuttke, Blome, & Henke, 2013) that buyer's weak working capital position causes firm to focus on post-shipment FSCM instruments.

Thus, to facilitate the development of SCF market in Russia the shift in minds is needed, first of all. Companies in their supply chain management efforts have to change their focus from their individual problems to the bigger picture, coordinating with other supply chain parties.

Top management support

All three analyzed companies highlighted the necessity of top management commitment for initiation of SCF. Moreover, for subsidiaries of large multinational companies, like our companies Alpha, Beta and Gamma, it becomes more complicated because the SCF initiative has to be approved on the global level.

For company Alpha it was not a challenge because the initiative for SCF implementation came from CFO of global headquarters. However, for Beta it was a challenging task: *“It is hard to persuade the treasurer of global headquarters, especially taking into account that Russian commission fees look incredibly high in comparison with low European interest rates.”*

Gamma also went through the approval process. *“The uniform approach had to be elaborated for different subsidiaries along the world, which were going to use SCF. There is no any particular problem with this approval process, it just takes a lot of time in order to take into account all difficulties and nuances of the solution.”*

The process of receiving agreement of headquarters can last even for years, and consequently, can slow down the initiation stage. For Russian subsidiaries of multinational companies the permission from the global headquarters is a requirement for implementation. Therefore, we can formulate the following propositions:

Proposition 1c: *Top management commitment is required for SCF initiation.*

Proposition 1d: *For Russian subsidiaries of MNEs the process of receiving permission from the global headquarters affects the speed of SCF initiation.*

To sum up, both company’s working capital position (as a component of motivation) and receiving top management commitment are the aspects, which influence the speed of initiation of SCF in the companies.

4.4.2 Restructuring and redesigning stage

Restructuring and redesigning stage is a period of time when the company adjusts the SCF program to its needs, business context, and also makes changes inside of organization for the purpose of SCF implementation. So, we considered what problems Russian companies face during this stage, how they deal with it, and consequently, identified factors, which can influence the effectiveness of the restructuring and redesigning processes.

Inter-departmental collaboration

Company Beta stated that both Head of the Payment center and Head of purchasing were responsible for implementation of SCF program. However, only payment center was involved into communications with the bank and discussion of program's terms; logistics and procurement functions were interacting with suppliers, but practically never with the bank.

On the contrary, in Company Alpha only CFO was responsible for SCF program; and later he faced the resistance of purchasing director, who didn't fully realize all benefits of SCF because he was not involved at redesigning/ redefining stage of implementation.

Gamma also told that both finance and commercial department (procurement) are in charge of SCF project now. But it also mentioned about misunderstandings before commercial department was included into the project team, which is responsible for SCF implementation.

Here we can see that lack of involvement of purchasing function into the early stages of SCF implementation can lead to resistance. However, it is important that purchasing director/purchasing department understands the importance of SCF because this is the department who actually interacts with suppliers and has to sell the SCF solution to them.

Therefore, the following proposition can be formulated:

Proposition 2a: *Involvement of Purchasing Director/ purchasing department in decision-making on the redesigning/ redefining stage is important for elimination of resistance to SCF inside the company.*

A similar pattern emerged regarding inter-departmental collaboration. Company Beta mentioned that during the implementation it had to cope with unclear allocation of responsibilities among departments and imprecise processes, which was the result of lack of communication and collaboration among departments. Beta's representative also highlighted that *"Implementation of SCF program requires readiness of people and departments to work with each other and to change processes"*.

Company Gamma has the same position. *"At the beginning there were problems with inter-departmental collaboration. It was hard to interact and to elaborate the uniform action plan; there was poor roles allocation."* However, the company has overcome this problem by creating cross-functional project team, which includes finance, commercial and legal department. Collaboration of different departments may help in adaptation of SCF solution to company's needs because SCF program should take into account the specifics of company's supply chain and legal nuances, where the expertise of corresponding departments can be helpful.

Thus, we can make the following assumptions about the requirements for SCF implementation in Russian supply chains:

Proposition 2b: *Inter-departmental collaboration is essential for SCF implementation.*

Proposition 2c: *Clear allocation of roles among departments, avoidance of procedural duplication is needed for successful implementation of SCF.*

These propositions support the results of previous studies on other markets. Collaboration of departments, alignment of their interests regarding SCF is considered to be important for success of SCF programs (More & Basu, 2013; Wuttke et al., 2013).

Supplier involvement

One more challenge was distinguished from the interview with representative of Company Gamma. Now the company is on the redesigning/ restructuring stage, when the SCF program terms are in the process of elaboration. However, the company “*can't predict what program conditions will potentially attract their suppliers because the majority of suppliers don't share information with Gamma*”. For example, the company has no information about the terms under which its suppliers are financed in the banks, what cost of capital they have now. And such lack of information sharing is typical for Russian supply chains.

By now Gamma is not involving any suppliers in the process; however, they consider such possibility in the nearest future. A key supplier for the pilot project can be chosen in order to test the program in advance. It can help to understand the supplier needs better and to adopt SCF program more successfully.

Company Beta also didn't ask for suppliers' opinions at redesigning stage. On the contrary, Alpha firstly tested its SCF program with one supplier before the official roll-out of the program. It allowed the company to receive feedback on the redesigning stage.

Therefore, we can assume that involvement of suppliers on the early stage of implementation can help to overcome the problem of low information sharing of suppliers with the company and to match SCF program design with suppliers' needs more effectively. Probably, it can also simplify the process of supplier onboarding in the future. Thus,

Proposition 2d: *Involvement of suppliers at the early stages can positively influence the implementation process of SCF.*

Compatibility with IT system of SCF provider

Even taken into account that the level of technological development is not high enough to use SCF in a way, in which it is applied in European markets, all three companies didn't mention any problems about IT systems installation.

Alpha and Beta didn't have to invest into IT platform for implementation of SCF solution. In both cases the interaction of parties was built on the basis of "Bank-Client" system of SCF provider. Moreover, both companies didn't experience any challenges connected with coordination of bank's IT system with their own systems. Alpha and Beta were using SAP, which was compatible with banks' systems and allowed companies to unload invoices from their platform to the banks without any problems.

Company Gamma hasn't shaped all procedures yet, it doesn't have a clear picture of how the interaction of the parties in SCF will look like from the technological viewpoint; but still the company doesn't expect any significant investments in IT system: "*We didn't have any investments in IT. If some adjustments are needed, we will involve our IT department into the process*".

At the same time, according to the interview with the expert from VTB Factoring, the integration of IT systems in big companies can be a very challenging, although not impossible, process, which takes significant time and efforts.

Therefore, choosing the SCF provider, which IT solutions are the most compatible with the company's IT system and with SCF needs, can probably save time and money on the redefining/ redesigning stage. The company won't need a lot of efforts to adopt the provider's system to its needs and to redesign their own IT system for ensuring the effectiveness of SCF operations in the future. So, it can be an additional criterion for choosing SCF provider.

Based on this reasoning we can set a proposition:

Proposition 2e: *Compatibility of IT solution of SCF provider with internal IT system of the company can accelerate the SCF implementation.*

4.4.3 Clarifying and disseminating stage

This stage of SCF adoption process includes persuasion of company's employees (in procurement department) to use SCF as well as the process of onboarding suppliers to SCF program.

As for persuasion of procurement employees on this stage, case studies didn't reveal any problems. Moreover, all document flow was on banks, so companies didn't need to create new working positions for the purpose of SCF.

However, the process of supplier onboarding was challenging for all companies (excluding Gamma, who hasn't reached this stage yet).

Supplier onboarding

Both Alpha and Beta experienced difficulties with onboarding suppliers into the program. In 2007 this problem was more significant due to low awareness about the product, not readiness of suppliers to work with a big international bank, and the culture of quick payments on the market, which didn't allow suppliers to understand the real value of SCF solution. In 2012 it was already easier to attract suppliers, but still the problem existed, and it still exists now.

From the technological point of view, no problems of suppliers' onboarding were identified. In terms of connecting suppliers to IT system, no technical challenges were mentioned. The only difficulty for supplier was to open an account in the bank–SCF provider; then amount of documents required from each supplier was substantial (minimum 20 different documents).

Beta explained the problem of supplier onboarding in the following way: *“There was lack of psychological readiness or willingness to be involved in SCF. Bigger suppliers were involved in the program quicker and easier.”*

For Alpha the situation was even more complicated because in that time, in 2007, small suppliers were got used to being paid quickly. Therefore, the extension of payment terms concerned them, and *“at first they didn't value the ability to access financing quickly and at a low cost”*.

Both companies at the beginning were engaging suppliers mainly with financial benefits. They were leveraging the advantage of receiving earlier access to cheaper financing. Company Gamma is also planning to attract its suppliers highlighting lower tariffs. However, tariffs are not attractive to all suppliers. Company Beta even compensated part of the commission fee to its suppliers in order to onboard them.

The reason of difficulties with onboarding of suppliers may be hidden in misunderstanding of all qualitative benefits that suppliers can get from SCF because companies are not highlighting this type of benefits well enough. Therefore, suppliers may consider the product as too expensive.

Later Alpha realized the importance of communicating intangible SCF benefits to suppliers. The company was organizing supplier forums where Alpha, the SCF provider and suppliers were discussing both financial and intangible benefits in a constructive manner, which helped in supplier attraction.

So, companies should leverage not only financial benefits of SCF, but create an offer, which highlights also intangible benefits that can be valuable for suppliers. It is also important because suppliers often don't share information about their interest rates and it is hard to predict what tariffs will be attractive for them.

Proposition 3a: *Leveraging not only financial benefits, but also qualitative benefits of SCF can facilitate onboarding of suppliers to the program.*

Also, a challenging and important task for companies is to decide which suppliers to involve in the program. Supplier selection criteria will determine what suppliers will be attracted into SCF program, and therefore, predetermine its future success (Schoefer J., 2014).

Both Alpha and Beta followed the similar strategy: both of them started SCF program with the most important, strategic suppliers and then extended the program to the whole supplier base.

Company Gamma, who hasn't started the onboarding phase yet, doesn't have any rule or procedure for supplier selection. However, company's representative also highlighted that the main criteria for their company will be the willingness to build long-term relationships with this supplier.

So, analyzed companies are convinced that strategic suppliers are the most suitable candidates for SCF, and it is important to start first with their onboarding to the program. Schoefer J. (2014) also considers that "bottleneck" and "strategic" suppliers, according to Kraljic's portfolio purchasing model, are good candidates for SCF.

Therefore, we can make a proposition about the importance of strategic suppliers' onboarding:

Proposition 3b: *Onboarding of strategic suppliers is important for long-term success of SCF program.*

4.4.4 Routinizing stage

On the routinizing stage the process of active onboarding of suppliers is over. SCF solution for the company is a standard tool used in daily processes. However, companies may face some challenges.

Electronic document flow

The other aspect to consider is automation of financial procedures. This is the challenge that both Alpha and Beta experienced during the clarifying stage and continued to have on the routinizing stage: manual operations in parallel to electronic payment procedures create challenges for financing remote suppliers because of bureaucracy and slow speed.

It is a restriction of external environment, which companies can't fully resolve by themselves. However, positive changes in development of EDI in Russia are happening constantly. For example, since 2012 electronic signatures are legally significant; on the 1st of April, 2016 the new standardized format for some types of electronic documents was approved on the governmental level (www.ifactoring.ru, 2016). So, companies should follow innovations in this area in order to speed up their procedures.

For example, for many years Alpha was scanning and sending documents to foreign headquarters. To scan this documents the company had to use special scanners, which situated only in Moscow and Samara. The quality of scanning was poor, and the average processing time was around 30 days. However, in 2015 the company implemented EDI-solution and the processing time decreased from 30 to only 5 days. For now the document flow with half of suppliers has been transferred to electronic format.

Therefore, implementation of electronic document flow and EDI-solutions can speed up documents processing time and therefore can be beneficial regarding SCF. Thus,

Proposition 4a: *Development of electronic document flow in the company influences positively the effectiveness of SCF processes.*

4.4.5 Results of SCF implementation

After investigation of the implementation process in case companies and identification of main challenges of SCF (Reverse Factoring) implementation for Russian companies, we will estimate the results of SCF programs. So, we will understand whether SCF solutions can bring benefits to Russian supply chains, despite the imperfections of external environment and internal implementation challenges, which we defined in the previous sections of the thesis.

As Company Gamma is on the redesigning stage and hasn't received any results of SCF program yet, effects from SCF implementation to be analyzed only for Alpha and Beta.

Case companies were asked to indicate the results of SCF implementation; and they noted both intangible and tangible benefits; although, Beta was more concerned with financial benefits. Received results are compatible with existing literature on types of benefits from SCF solutions in European markets (Siefert & Siefert, 2011; Demica, 2013; ACCA, 2014).

Intangible benefits

First, the companies reached standardization of payment terms, and therefore, simplified transaction processes: Alpha established standardized payment terms of 30 days, while Beta agreed on 90 days for their suppliers.

Secondly, both companies noted that SCF strengthened their relationships with its strategic suppliers, who were involved in the program.

Alpha also said that “*implemented SCF program is the source of competitive advantage for a company*”. In the company’s business environment payment terms are criteria of competition among large companies for attraction of good suppliers; and with SCF solution Alpha offers very attractive payment conditions for suppliers for many years.

Additionally, both companies highlighted that SCF program brought intangible benefits to their suppliers in form of flexible access to capital, reduced credit and collection risks and more predictable cash flows.

However, surprisingly, both companies didn’t see any significant impact of SCF on transparency of supply chain, although it assumes to be one of the key elements of SCF value proposition (Hofmann & Belin, 2011). Probably, the reason is in the small size of SCF programs in comparison to the whole pool of Accounts Payable of the companies. So, the size of SCF program might influence the amount and type of intangible benefits for companies; however, additional investigations with comparison of SCF programs of different size are necessary to make further judgments.

Tangible benefits

Main tangible benefits from SCF implementation that both companies reported are:

- Extension of payment terms
- Improvement of working capital due to increase of DPO
- Decrease of administrative costs

Alpha also achieved the decrease of cost of goods sold (COGS), while for Beta there was no impact on COGS. On the contrary, some suppliers even increased their prices as a compensation for paying a commission fee to the bank. Again, it can be the consequence of inefficient communication of intangible benefits of SCF program to suppliers, which was discussed in the previous sections.

The companies also noted positive effect of SCF on financial state of their suppliers. In both cases suppliers received access to cheap financing and ability to receive payments earlier, thus boosting their liquidity.

Next, we will support the results gathered from companies' interviews with quantitative estimation of benefits. As the quantitative data in both cases are limited, and there is no access to Alpha's and Beta's suppliers, it is not possible to make the full cost-benefit analysis of these SCF programs. However, we are able to estimate the increase of Days Payable Outstanding and the size of WC gains for Alpha and Beta due to this increase. All calculations will be based on financial reports of companies for corresponding years.

1) Increase of Days Payable Outstanding

Days Payable Outstanding show how long it takes on average for a company to pay its invoices to suppliers:

$$DPO_1 = \frac{\acute{A}P}{COGS_1 + Inventory_1 - Inventory_0} * 365$$

, where

(1)

$\acute{A}P$ – Average Accounts Payable;

$COGS_1$ – Cost of goods sold in the current year;

$Inventory_1$ – Inventory at the end of the current year;

$Inventory_0$ – Inventory at the end of the previous year.

In order to estimate the increase of DPO due to implementation of SCF, we compared DPO before SCF and DPO the year after implementation. Respectively, for Alpha we calculated DPO values at the end of 2006 and 2007, while for Beta – DPO values at the end 2011 and 2012.

Analyzed companies demonstrated close results: during the first year after implementation companies' DPO increased by 19,5% and 17,3% (Table 12).

Table 12. Results of SCF implementation: DPO extension

	Alpha	Beta
DPO before SCF (days)	42,03	80,9
DPO after SCF (days)	50,24	94,93
DPO extension	19,5%	17,3%

Source: Author's calculations

Of course, this increase can contain not only the effect of SCF implementation, but as long as we don't have access to more detailed information, we will use this number as an estimate of SCF effects.

2) Financial gains

Based on the methodology of Belin & Hofmann (2011) we can calculate the monetary value of DPO increase. So, we will receive the amount of benefits for Alpha and Beta from unlocking working capital with help of SCF, or, in other words, we will estimate the yearly reduction in costs of financing working capital:

$$\text{Working Capital gains} = \frac{\text{WACC} * (DPO_{\text{after SCF}} - DPO_{\text{before SCF}})}{365} * AP \quad (2)$$

Belin & Hofmann (2011)

The idea underlying this formula is that by extending DPO the company decreases its needs in external sources of financing, because the company can use its Accounts Payable longer. And the cost of external financing for the company can be measured by weighted average cost of capital (WACC).

The formula for WACC calculation is the following:

$$\text{WACC} = w_d r_d (1 - T) + w_s r_s, \text{ where} \quad (3)$$

r_d = cost of debt, r_s = cost of equity, w_d = weight of debt, w_s = weight of equity, T = tax rate.

As our case companies are not publicly traded, it is hard to estimate target capital structure and cost of equity for them. Therefore, we use indirect method and take the cost of capital of Alpha and Beta's competitors, whose stocks are traded on the Russian stock exchange, as an estimate of WACC. These data are taken from investcafe.ru valuation reports. Therefore, we use $\text{WACC}_{\text{Alpha (2007)}} = 15,01\%$, and $\text{WACC}_{\text{Beta (2012)}} = 12,29\%$ for our calculations.

As a result we receive the following annual benefits from unlocking working capital for Alpha and Beta:

1. Alpha's working capital gains:

$$\frac{0,1501 * (50,24 - 42,03)}{365} * 5\,022\,005\,000 = 16\,950\,340,46 \text{ (Rub.)}$$

Working capital gains per 1 ruble of AP = **0,0034 (Rub.)**

2. Beta's working capital gains:

$$\frac{0,1229 * (94,93 - 80,9)}{365} * 6\,428\,321\,000 = 30\,362\,345,23 \text{ (Rub.)}$$

Working capital gains per 1 ruble of AP = **0,0047 (Rub.)**

Comparing to estimates for European markets, our calculated benefits are rather low: Belin & Hofmann (2011) estimated that net benefits for buying companies from SCF implementation equal \$0.0082 for every AP dollar. It can be an indicator that favorableness of external environment influences the amount of benefits, which can be derived from SCF implementation (Iacono, Reindorp & Dellaert, 2014).

Also, in our calculations we estimated only working capital gains and didn't include benefits from reduction of administrative costs because there is not enough information for it. Moreover, we estimated the amount of benefits only for the first year of implementation, while in subsequent years this amount can grow with more suppliers involved in the program. So, monetary benefits for buying companies are even higher than we have calculated.

Additionally, we shouldn't forget about the monetary benefits from supplier side – benefits of using lower interest rates and receiving early payments.

Therefore, analyzed case studies illustrate that it is possible to apply SCF in Russia and to receive significant tangible and intangible benefits for supply chains, even despite the external and internal challenges. It indicates that Supply Chain Finance has potential on the Russian market. That is why we can make the following proposition:

Proposition 5a: *SCF is a valid solution for Russian Supply Chains in order to free up liquidity, lower risks and improve stability of supply chain, even despite internal and external implementation challenges.*

4.5 Framework of SCF implementation for Russian supply chains

Cross-case analysis gave us understanding of main challenges, which Russian buying companies face while implementing SCF (i.e. Reverse Factoring) solutions, and of main results of SCF implementation. Based on this analysis we developed 5 sets of propositions that characterize SCF implementation process. We have integrated all developed propositions into the framework of SCF implementation (Figure 6).

As a basis for our framework we took SCF implementation stages from the paper of Wuttke et al. (2013): initiation, redesigning, clarifying and routinizing. Next, we attached all our propositions to these stages.

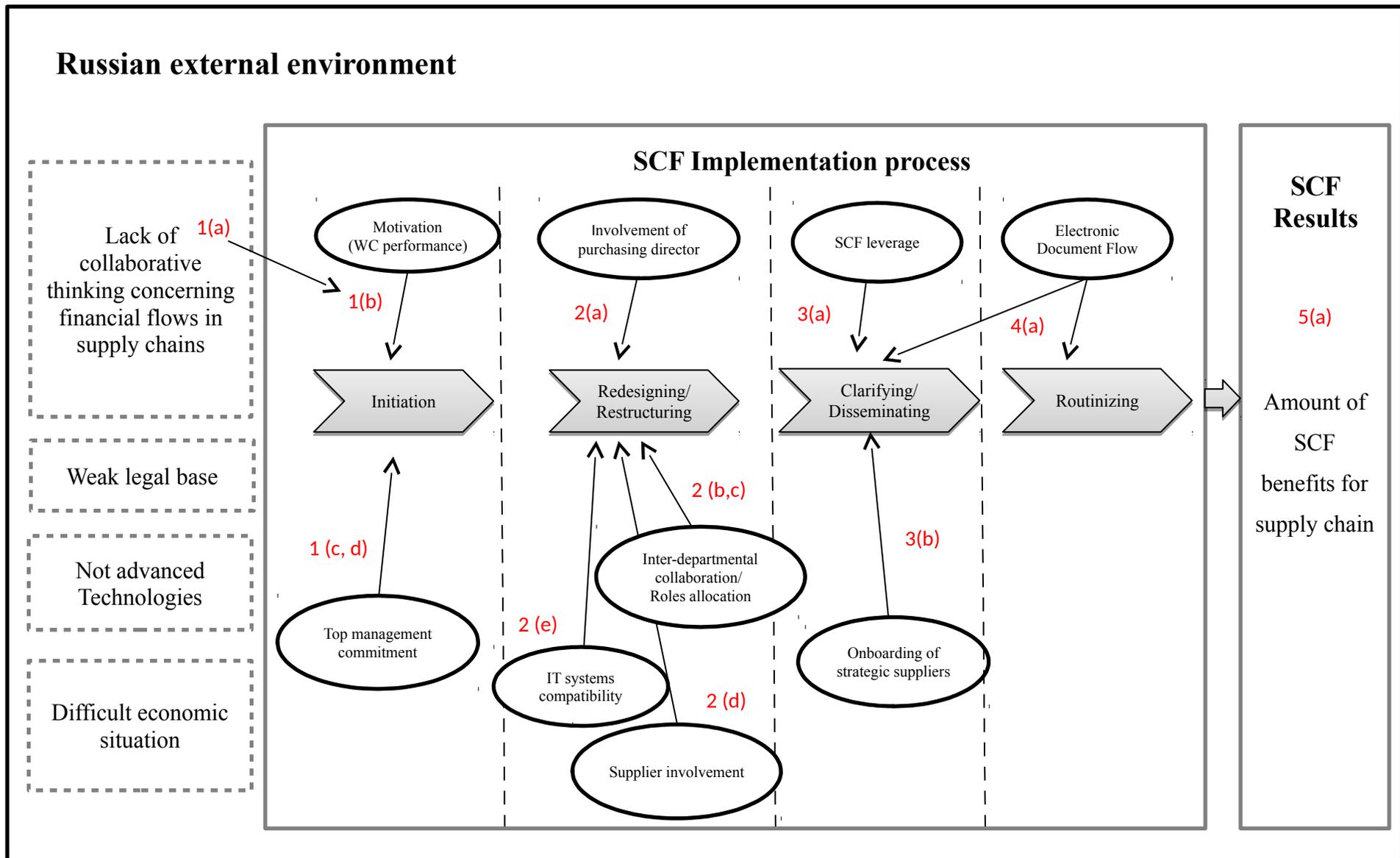
Moreover, our framework reflects the idea that external environment also influences the implementation: external factors transform into internal implementation challenges. So, we add into the framework main external barriers influencing SCF market, which we identified in the Chapter 3: lack of collaboration among supply chain partners in terms of managing financial flows in supply chains, weak legal base, level of technological advancement, and difficult economic situation.

Also, it is shown in the framework that the volume of benefits, which can be derived from SCF, is influenced both by the external environment and the effectiveness of SCF implementation process.

Thus, this framework gives us requirements for SCF implementation in Russia. Under requirements we understand factors, which influence the speed and effectiveness of SCF implementation for Russian companies.

So, the type and strength of motivation and top management commitment influence the speed of initiation stage. Involvement of purchasing director and suppliers on the redesigning stage, as well as IT systems compatibility and inter-departmental collaboration can decrease the resistance to the program and increase the effectiveness of the redesigning stage. Leveraging intangible benefits of SCF can make the onboarding stage more efficient; onboarding of strategic suppliers will contribute to the long-term success of the program. Finally, usage of electronic document flow can improve efficiency of SCF payment operations on clarifying and routinizing stages.

Figure 6. Framework of SCF implementation in Russian supply chains



Source: Created by author

4.6 Estimation of untapped SCF potential

In the earlier section we have calculated the amount of working capital gains from SCF implementation for 2 large manufacturing companies. Now, let us estimate how big the potential working capital gains are, which can be captured by the whole manufacturing industry in Russia.

If we just assume that all large manufacturing companies in Russia could gain at least the same DPO extension as our 2 analyzed companies, we can imagine how much liquidity could be released in supply chains with help of SCF.

In our case, analysis of 2 manufacturing companies showed that during the first year of implementation the extension of DPO was between 17,3% and 19,5%. Therefore, for our estimation we will take the following average value of DPO extension: $(17,3+19,5) / 2 = 18,4\%$.

Thus, the size of SCF potential will be calculated with the following formula based on Demica (2013) study:

$$\frac{WACC_{industry} * (1,184 * DPO_{industry\ average} - DPO_{industry\ average})}{365} * AP_{industry}, \text{ where} \quad (4)$$

WACC_{industry} = weighted average cost of capital for large Russian manufacturing companies;

DPO_{industry average} = average DPO for large Russian manufacturing companies;

AP_{industry} = total amount of Accounts Payables in 2015 in large Russian manufacturing companies, who could potentially use SCF.

To create a sample of large Russian manufacturing companies for calculation of potential we used the SPARK database (<http://www.spark-interfax.ru>), which contains information about all registered Russian companies. The criteria of companies' selection were the following:

- Large company (revenue > 1 billion rubles)
- Manufacturing sector
- Not state-owned company (because state-owned companies are not able to apply

SCF programs now)

As a result we collected data on a sample of **6298** large manufacturing companies, which are potentially suitable for SCF implementation.

Average DPO for the sample equal 99,35 days. For WACC value we take the estimate for manufacturing companies in Russia based on experts opinion: 16,12% (<http://www.waccexpert.com>, 2016).

In order to avoid double counting, we have to adjust AP_{industry} and eliminate the amount of Accounts Payable, which are already involved in SCF programs. Based on experts' interviews, the approximate share of Reverse Factoring in 2015 is 15% of the total factoring portfolio: $260,4 * 0,15 = 39,06$ billion rubles. So, we extract 39 billion rubles from the volume of total AP_{industry} = 9081,83 billion rubles in 2015.

As a result we find the minimum estimate of untapped market potential for SCF in manufacturing sector:

$$SCF\ potential = \frac{0,1612 * (1,184 * 99,35 - 99,35)}{365} * (9081,83 - 39,06) = \mathbf{73,01\ billion}$$

rubles

This is an additional working capital gain, which could be released with help of SCF for large manufacturing companies. So, these figures demonstrate the extent to which SCF can be leveraged further to achieve working capital improvements in Russian manufacturing supply chains.

The potential SCF liquidity release for large buying companies in manufacturing, wholesale and logistics supply chains, calculated for some European countries in 2013 is the following: €87 billion for Germany, €37 billion for France, €19 billion for UK, €9 billion for Poland, €3,9 billion for Czech Republic, €2,5 billion for Hungary (Demica, 2013).

Thus, we can see that for Russia this figure is much lower, than for highly developed countries, like Germany or UK, but comparable with some European countries: e.g. Hungary.

One of the possible explanations for such difference is that direct benefits that supply chain participants can obtain from SCF implementation are sensitive to market conditions, to favorableness of external environment (Iacono, Reindorp & Dellaert, 2014). Moreover, in our research we have calculated the potential gains only for manufacturing companies, while Demica (2013) also included wholesale companies.

Still, the volume of untapped working capital gains for large Russian manufacturing companies is substantial for the market. Additionally, there is second part of SCF potential, which is a potential liquidity release from the supplier side. This part was not covered in our calculations due to lack of information; however, this volume can be also significant.

Therefore, we can make a conclusion that there is big untapped potential of SCF in Russia:

With the current level of SCF application substantial additional financial benefits are wasted today in Russian Supply Chains.

Summary of Chapter 4

In the Chapter 4 we have considered in details 3 cases of SCF implementation and conducted cross-case analysis. So, we covered 2nd and 3rd research questions by looking at the process of SCF implementation and results of the SCF programs.

During cross-case analysis we identified challenges, which Russian companies face on different stages of implementation and derived five sets of propositions concerning the requirements for SCF implementation in Russia from them. Under requirements we understand factors, which influence the speed and effectiveness of SCF implementation for Russian companies. All propositions were integrated into the framework of SCF implementation for Russian supply chains.

Moreover, we identified tangible and intangible results of SCF, and estimated untapped potential of SCF for large buying companies in manufacturing industry. As a result we concluded that SCF is a valid instrument for boosting liquidity and lower risks in Russian supply chains, but with current level of application substantial potential financial benefits are wasted.

CONCLUSIONS

In our research we were investigating the phenomena of SCF (particularly Reverse Factoring approach as a narrow view on SCF) in Russian supply chains. Following our research questions, first, we analyzed the maturity grade of SCF in Russia and distinguished main external factors influencing the development of the instrument. Then, we considered in details the process of SCF implementation and results of SCF programs in three large Russian manufacturing companies. As a result, we accomplished our research goal: identification of SCF implementation challenges and requirements and estimation of potential of this instrument in Russia.

So, according to our results, main challenges that Russian companies face, while implementing SCF solutions, are:

- Difficulties with achieving top management support
- Resistance of purchasing director/ purchasing department
- Lack of inter-departmental collaboration
- Lack of clarity in roles allocation
- IT systems' integration difficulties
- Lack of suppliers' information sharing
- Difficulties with onboarding suppliers into program
- Lack of automation of payment processes

Based on these challenges and the ways researched companies coped with them, we derived 5 sets of propositions on requirements for successful implementation. These propositions were combined into the framework of SCF implementation in Russia, demonstrating what factors influence speed and quality of SCF implementation on different stages.

Next, after estimating the results of SCF programs, we came to the conclusion that, despite external and internal challenges, SCF is a valid solution for Russian supply chains in order to free up liquidity, lower risks and increase stability. However, with current level of application of SCF in Russia, substantial financial benefits are wasted. So, there is a significant untapped potential for this instrument.

Therefore, the question arises: **How to exploit this potential and extend it even further in Russia?** Based on results of our analysis, we can suggest 2 ways:

- 1) **On the macro-level:** by stimulating the usage of SCF in Russia, so increasing supply and demand for the instrument;
- 2) **On the corporate-level:** by making more companies to overcome internal challenges and complete implementation process successfully.

Thus, 2 sets of practical recommendations for future development of SCF are elaborated in the next section.

Practical recommendations on SCF in Russian supply chains

I. Macro-level recommendations (for government and SCF providers)

In Chapter 3 we have distinguished main external barriers, which restrict SCF development in Russia. Decrease of these barriers can facilitate the growth of demand and supply for SCF programs.

1) Cultural shift

First of all, shift in minds is needed for further development of SCF. Companies have to change their perception of financial supply chain management measures. Now most companies focus on their individual problems rather than coordinating with their suppliers. It can lead to a “prisoner’s dilemma”, when optimal solution to minimize capital expenses lies in collaboration between parties, but because of lack of collaborative thinking supplier and buyer choose suboptimal solution.

This shift can be stimulated by several measures:

- **Increased marketing efforts of SCF providers**

Special attention of financial providers to this instrument, activities that increase awareness among companies about all benefits of SCF (e.g. articles, advertising, information sessions) can facilitate the demand for SCF solutions.

- **Government programs**

Government programs can stimulate the demand for SCF. As an example, UK Supplier Financing governmental program can be considered. In 2012, the government launched the program and made agreements with leading UK companies about implementation of SCF in order to support growth of small, local businesses (<https://www.gov.uk>).

These steps will cultivate cultural readiness to SCF. It will increase the demand from large companies to implement SCF not only for extension of payment terms, but also for helping suppliers who experience financial difficulties.

2) Factoring in public procurement

There are lots of large state-owned companies in Russia, but they cannot use any factoring products, including SCF, because of the legislative barriers in this sphere. Allowance of

usage of factoring products in public procurement will increase the demand for SCF and unlock a huge potential. The following steps are necessary in this case:

- Amendments to laws that make it possible to use factoring products in public procurement;
- Development of instructions for treasuries how to use factoring products in public procurement;
- Description of procedures of assignment of a claim in public procurement documentation.

3) Development of EDI

Development of EDI is another driver for SCF. It will, first of all, increase transparency of operations and, therefore, lower risks of fraudulent invoice shipments. Moreover, it decreases the corruption risks, collision between supplier and buyer. Thus, it can influence positively the volume of supply of SCF. Additionally, e-invoicing can make all financing operations quicker, and thus increase the efficiency of SCF.

By now the speed of development of electronic data interchange is rather low in Russia. Further efforts of government on elaboration of EDI standards (e.g. legal formats of e-documents) and stimulation of its usage in companies (for example, like it was done in Denmark or Finland), will have positive effect on development of SCF in Russia.

II. Recommendations for Russian companies on SCF implementation

We can use the framework, which was created in our research (Figure 6), in order to give recommendations for Russian companies on how to implement SCF successfully.

1) First step is to **“sell” SCF internally**, both to top-management and to other departments in order to eliminate resistance inside the company.

Showing existing successful SCF practices with quantifiable benefits should help in convincing top-management and receiving its commitment.

To “sell” SCF product internally to other departments is also crucial to eliminate resistance to this instrument inside the company. So, procurement, logistics, IT, legal departments have to be taken onboard. The following steps can be undertaken for this purpose:

- To involve purchasing department/ director at redesigning stage (e.g. in discussions with SCF provider)
- To create cross-functional team (to take procurement, logistics, IT, legal departments on board) in order to facilitate collaboration of departments
- To organize activities for “selling” the product inside the company (seminars, info sessions)

2) Provide **strict allocation of roles** concerning SCF implementation among departments in order to avoid duplication and vagueness of processes.

It can be ensured by development of cross-functional team, who is responsible for implementation, and creation of internal regulations/ internal documents that prescribe the roles distribution (e.g. who is interacting with suppliers, who involves suppliers into the program, who monitors payments etc.).

3) **Involve suppliers into implementation process (at redesigning stage).**

Several measures can be undertaken to ensure supplier involvement:

- To conduct pilot phase of the project (testing SCF with several suppliers);
- To organize panel sessions;
- To provide two-way communication, taking into account suppliers opinions on SCF program.

4) Attract **strategic suppliers first** into SCF, and then extend to other suppliers.

Criteria for deciding who your strategic supplier is can differ from company to company. It can be not only the volume of transactions, but also importance/ uniqueness of the product, supply risks.

5) **Leverage intangible benefits** of SCF implementations while attracting suppliers. SCF value proposition for suppliers should be not based only on financial benefits.

To achieve this, workshops with suppliers' sales and financial managers can be organized, where both financial and intangible benefits will be discussed

6) Better choose SCF provider, whose **SCF IT platform** is maximally **compatible with your own IT** system.

It will result in lower investments, quicker implementation process and more effective operations. So, it can be one of the selection criteria of SCF provider for the company.

7) **Develop electronic document flow** in the company, keep step with innovations in the area of EDI on the Russian market.

It will positively influence the speed of documents exchange and, therefore, may make SCF program more beneficial/ effective, and available for more suppliers.

Theoretical implications

This research is a contribution into the growing field of Financial Supply Chain Management, and particularly to the emerging area of SCF. This is the first research on SCF (specifically Reverse Factoring) implementation in Russian supply chains and one of the several researches on SCF in emerging markets, so it can be the basis for further investigations of the topic.

The important theoretical contribution is the framework of SCF implementation process, which incorporates factors influencing effectiveness of SCF implementation on different stages for Russian supply chains. It is also valuable that this framework takes into account the environmental context, which is specific for Russia.

Moreover, in the research the attempt to estimate SCF potential for Russian market was taken. Thus, the volume of untapped working capital gains for large manufacturing companies was calculated which represents the part of untapped financial benefits from the side of buying companies.

Limitations and suggestions for future research

There are several limitations of the following research. First of all, the limited number of cases was used for cross-case analysis. The reason here is the limited data on SCF in Russia; moreover, the low willingness of companies to share such sensitive information restricted the process of data collection.

Secondly, for cross-case analysis large manufacturing companies were chosen. However, it could be interesting to widen the research to different industries in the future. The other direction for future research is to consider SCF implementation in Russian medium-sized enterprises, because it is a big question whether or not SCF brings financial benefits for supply chains in this case.

Also, in our research we were analyzing the phenomenon of SCF from the buyer's perspective, while suppliers were not considered. Therefore, for future investigations it could be worth to extend research to suppliers too.

Lots of uncovered questions are still remained in the research field of SCF in Russia. Primarily, it would be interesting to conduct full cost-benefit analysis of SCF programs in order to calculate full amount of financial benefits and make more precise estimations of SCF potential. Additional question is to investigate how different internal/ external factors are

influencing the size of SCF benefits. Finally, it will be interesting to conduct comparative analysis of SCF implementation in Russia with other countries.

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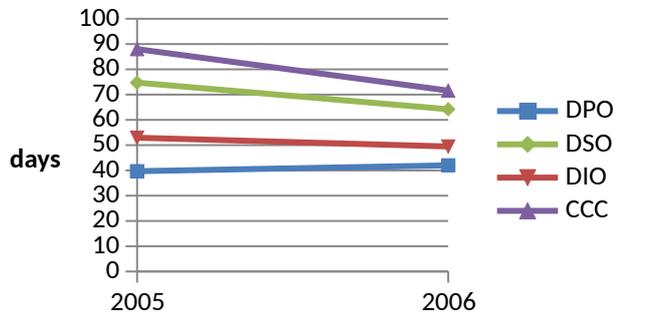
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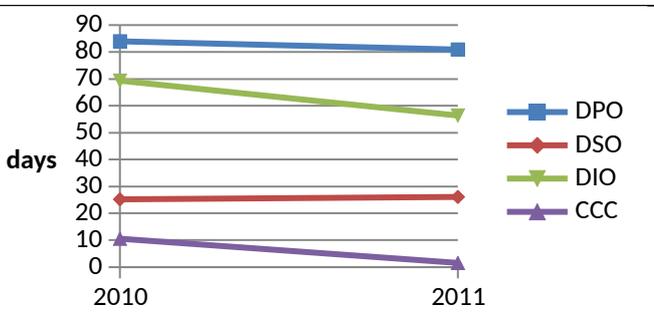
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APPENDIX 1. WORKING CAPITAL POSITION OF CASE COMPANIES PRIOR TO SCF IMPLEMENTATION

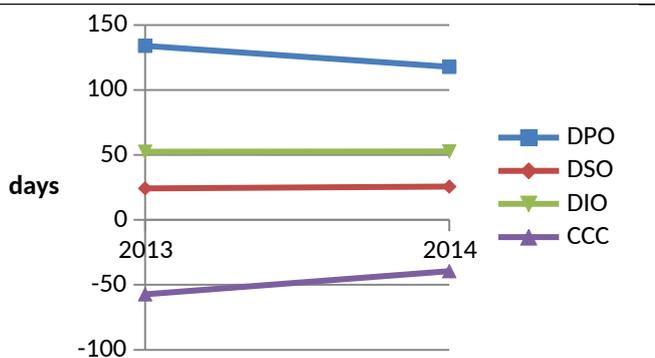
Alpha	2005	2006
DPO	39.70	42.03
DSO	74.72	64.17
DIO	52.99	49.46
CCC	88.01	71.60
WC ratio	3.89	3.48



Beta	2010	2011
DPO	83.99	80.9
DSO	25.23	26.1
DIO	69.32	56.36
CCC	10.56	1.56
WC ratio	1.41	1.53



Gamma	2013	2014
DPO	133.99	117.74
DSO	24.27	25.64
DIO	52.42	52.57
CCC	-57.29	-39.53
WC ratio	1.037	0.865



Formulas for calculation:

$$DPO = \frac{\dot{A}P}{COGS + Inventory_1 - Inventory_0} * 365$$

$$DSO = \frac{\dot{A}R}{Revenue * 1,18} * 365$$

$$DIO = \frac{Inventory}{COGS} * 365$$

$$CCC = DSO + DIO - DPO$$

$$WC\ ratio = \frac{Current\ Assets}{Current\ Liabilities}$$