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THE ROLE OF SUSTAINABILITY IN SUPPLY CHAIN MANAGEMENT IN RUSSIA
Empirical Evidence from the Different Industries

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ABSTRACT

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Over the past decades, an implementation of sustainability in supply chain management has become a popular practice. However, most of the research on this topic focuses on developed countries, while there are few studies conducted on developing countries such as Russia. Thus, the aim of the research is to analyze the role of sustainability in supply chain management in Russia. Moreover, in order to get a holistic picture of the studied object, it is important to investigate main driving and restraining forces for sustainability implementation in supply chain management of Russian companies.

The empirical part of the research is multiple case studies consisting of the analysis of three case companies from Russia. The empirical data were gathered by conducting the survey using both quantitative and qualitative methods. The analysis of the case companies reveals that the role of sustainability in supply chain management seems to be very insignificant among companies originating and operating in Russia. The level of awareness of sustainability practices among companies originating and operating in Russia seems to be low, and the Russian legislation related to environmental and social sustainability in the business sector is poorly developed. However, the case company, that originally comes from the EU, shows much better results in sustainability implementation in supply chain management, what can be explained by the fact that it adopts views related to sustainability from developed countries' practice, where sustainability has become an integral part of supply chain management.

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These two years in the Lappeenranta University of Technology were a challenging and simultaneously exciting journey. During this journey, I have gained valuable knowledge, delightful memories and great friends. There were also some obstacles on this way that required patience and hard work. Now I am closing the last chapter of this book.

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1 Introduction

This chapter aims to provide a basic understanding of the research. It introduces the background of the study, describing the importance of the topic and defining the research gap. It justifies the need for the research of sustainability in supply chain management (SCM) in Russia. Moreover, the objectives of the study and the research questions are defined in this chapter. The introduction chapter also includes the theoretical framework, the definitions of the key concepts and the structure of the research.

1.1 Background

The sustainability movement is becoming wider every year. Nowadays all big international companies have implemented or are on their way to implement some sustainability principles. It happens because awareness of business's impact on society and environment has become significant and is still growing. Thus, society demands from companies to take responsibility for their actions. Financial performance is already not enough. Moreover, nowadays, speaking of sustainability, it is more accurate to consider not companies in isolation but the whole supply chains. Thereby, one can call it 'joint responsibility' – the situation, when members of a supply chain are responsible for all unsustainable actions in this supply chain. It forces companies to be more thoughtful while making purchasing decisions and opting for future suppliers.

In developed countries, a reputation of a company in many respects depends on whether or not this company adopts sustainable supply chain management (SSCM) practices. There is a pressure from the media sector that attracts the attention of society to such problems as poor working conditions, child labor, environmental damage due to polluting manufacturing, freight transportation or waste disposal in inadequate ways and inequality in salary or overall treatment of people of different genders, sexual orientations or nationalities. There is a pressure from customers that show their sustainable preferences by their purchasing behavior. Thus, in developed countries, such a model of usage of cheaper but more polluting machines just to meet increasing needs of modern society with the lowest prices is becoming less and less demanded.

Speaking of environmental aspects of sustainability, it is worth emphasizing the environmental footprint of logistics and supply chain activities. One of the most significant

elements of the environmental footprint is greenhouse gases emissions, which, according to IPPC (2014, 125) "increased by about 75 % since 1970". The biggest contribution in greenhouse gases emissions is made by CO₂ emissions (about 76%). Transportation sector generates approximately 14% of CO₂ emissions. (IPPC 2014) Attention is mostly focused on personal transportation while freight transport is often ignored, even though in fact this segment also has a big share of the CO₂ emissions. As the world population grows rapidly, the need of goods is also increasing, what in turn increases the usage of freight transport.

The topic of sustainability has been researched quite a lot, as sustainable issues have become well-known several decades ago. However, the majority of research is focused on the analysis of the situation in developed countries, while there are a few studies on developing countries. In their article, Jayanti & Gowda (2014, 130) say that "emerging markets present interesting dilemmas since rapid mass urbanization aimed at raising standards of living poses concomitant threats to environmental health". Speaking of studies on sustainability in developing countries, it is worth mentioning that there are almost no research of sustainable supply chain management in Russia. Despite the fact that some common characteristics of sustainable aspects in developing countries can be identified, it is important to conduct a research on Russia directly, as such a research can develop a realistic view on the sustainable issues in supply chain management in Russia.

Since Russian market is one of the largest ones in the world, more and more companies (including those from developed countries) consider entering this market as a sound opportunity to expand their customer base and to increase their profit. When a company enters a new market, it extends its supply chain, including new members that originate from this market. However, the situation, when companies in a supply chain are from different countries where views on various issues such as sustainability differ from each other, could cause a problem. As it is obvious that there is a gap in the sustainability issues between Russia and developed countries, it is important for companies from these countries to understand what priority sustainability has in supply chain management in Russian companies. In order to build strong relationships with Russian companies and to obtain the needed level of sustainability from them, it is significantly important to know what restraining and stimulating forces for sustainable supply chain management exist in Russia.

Moreover, since the environmental issues have become highly vital nowadays, one can see the acute need for sustainability implementation in supply chain management. It is important

that the whole world supports environmentally-friendly practices and Russia plays a significant role in this issue as it has the largest area in the world and its actions notably affect the rest of the world. Therefore, it is needed to analyze the present situation related to sustainable supply chain management in Russia in order to create particular ways to increase the level of awareness of sustainability practices and to enhance a motivation base for the sustainability implementation in supply chain management in Russian companies.

1.2 Objectives, research questions and limitations

In connection with the identified research gap, the main objective of the research is to develop a comprehensive understanding of the role of sustainability in supply chain management in Russia. In order to achieve this goal, it is also needed to analyze driving and restraining forces for sustainability implementation in Russian companies. Thus, to examine the current sustainability situation related to SCM in Russia, the previous literature on this topic will be reviewed and the case companies' sustainability performance will be analyzed. The main research question and sub-questions are presented below.

The main research question:

What kind of role does sustainability play in supply chain management in Russian companies?

The sub-questions:

What directions of SSCM do Russian companies focus on: social or environmental sustainability?

What kinds of main drivers and barriers of sustainability principles implementation in SCM exist in Russia?

In addition, it is important to highlight that the focus of this research is only on environmental and social sustainability. That is, the research does not concentrate on financial side of sustainability. The research aims to find out, to what extent Russian companies try to minimize a negative impact on the global or local environment and society, not taking into consideration their financial performance. Thus, the developed survey is focused on the

evaluation of the companies' concern for and involvement in social and environmental issues.

1.3 Theoretical framework

In order to answer the research questions, it is needed to analyze the previous literature on the topic. Thus, a theoretical framework should be created. The developed theoretical framework (see Figure 1) illustrates a theoretical basis of the research. First of all, the concept of supply chain management should be described. Then, sustainability will be analyzed through different theories. One of them is a corporate social responsibility (CSR), which mostly illustrates the social side of sustainability. Thus, it is also worth analyzing separately environmental sustainability. Afterwards, Triple Bottom Line will be considered, where the focus is on the three parts simultaneously: environment, society and profit. Finally, combining both concepts of supply chain management and sustainability, sustainable supply chain management (SSCM) will be described. In order to get a full understanding of the idea of SSCM, it is important to consider existing practices, motives and barriers of SSCM. After all, with a support of the theoretical framework, the empirical findings will be analyzed to draw the final conclusions.

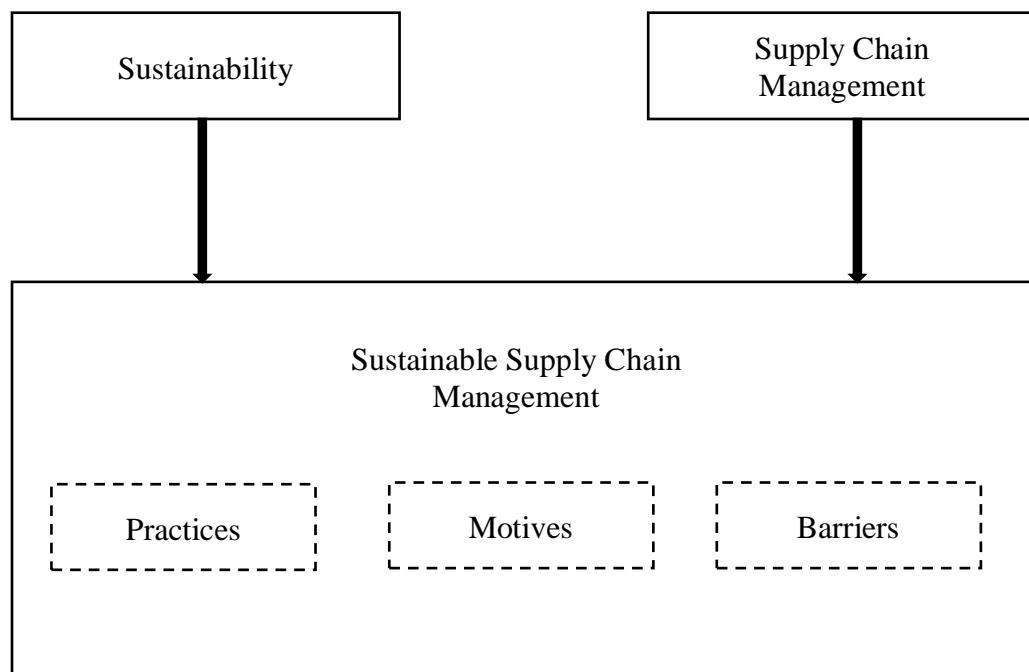


Figure 1. Theoretical framework

1.4 Definitions of the key concepts

Supply chain management is “the management of the interface relationships among key stakeholders and enterprise functions that occur in the maximization of value creation which is driven by customer needs satisfaction and facilitated by efficient logistics management” (Walters & Lancaste 2000, 160).

Sustainability is a development that “meets the needs of the present without compromising the needs of future generations to meet their own needs” (WCED 1987).

Business sustainability is "the creation of resilient organizations through integrated economic, social and environmental systems" (Bansal 2010).

Corporate social responsibility is “the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as the local community and society at large” (Holme & Watts 2000).

Triple Bottom Line is a concept that is based on the idea that “a corporation's ultimate success or health can and should be measured not just by the traditional financial bottom line, but also by its social/ethical and environmental performance” (Norman & MacDonald 2004, 243).

Sustainable supply chain management is “the creation of coordinated supply chains through the voluntary integration of economic, environmental, and social considerations with key inter-organizational business systems designed to efficiently and effectively manage the material, information, and capital flows associated with the procurement, production, and distribution of products or services in order to meet stakeholder requirements and improve the profitability, competitiveness, and resilience of the organization over the short- and long-term” (Ahi & Searcy 2013, 339).

1.5 Structure of the research

The research is divided into five chapters and consists of two main parts: theoretical and empirical part. The first chapter is an introduction to the research. It describes the background of the research, where the importance of the topic is defined and the research

gap is found. It also introduces the objectives of the study and the research questions. Moreover, the introduction chapter includes the theoretical framework, the definitions of the key concepts and the structure of the research.

The literature review is conducted in chapters 2 and 3, where the theoretical background of the research is drawn. Chapter 2 defines sustainable supply chain management and describes it through the concepts of supply chain management and sustainability. Chapter 2 defines the concept of sustainability, analyzing the literature on the main theories in this field: CSR, environmental sustainability and Triple Bottom Line. The third chapter describes the main practices utilized in SSCM and also introduces the main restraining and driving forces for sustainability implementation in SCM.

Then, having the theoretical part as a basis, the empirical study is conducted in chapter 4. First of all, the chapter introduces the research methodology, describing how the empirical research is developed and designed. Besides, an overview of all three case companies is presented. Then, the empirical findings for each case company and the overall results, which are gathered through utilizing the developed survey, are analyzed.

The final chapter summarizes the key results of the research, providing the answers to the research questions. Chapter 5 introduces the found connections between the empirical findings from the previous chapter and the theoretical findings. In addition, it introduces the limitations of the research and suggestions for further research.

2 Sustainable supply chain management (SSCM)

In order to prepare the groundwork for the following literature review related to existing SSCM practices and also motivating and restraining forces for sustainability implementation in SCM, it is worth defining sustainable supply chain management. Since SSCM is a combination of the two concepts, supply chain management and sustainability, after defining what sustainable supply chain management is, it is important to describe these two concepts to get a holistic understanding of SSCM.

Since nowadays it is more accurate to evaluate the performance of not an isolated company but the whole supply chain, it is not enough to behave sustainably within the company only, but the whole supply chain should be sustainable. Thus, SSCM has become very popular. (Carter & Liane Easton 2011) According to Seuring & Müller (2008, 1700), SSCM is “the management of material, information and capital flows as well as cooperation among companies along the supply chain while taking goals from all three dimensions of sustainable development, i.e., economic, environmental and social, into account which are derived from customer and stakeholder requirements”.

The first step towards sustainability implementation into a company's supply chain is to develop a clear sustainability strategy, where the main sustainability goals and the ways of their achievement should be defined (White 2009). Moreover, in order “to be fully integrated, sustainability needs to be part of the culture as well as part of everyone's daily work” (White 2009, 393). Thus, sustainability strategy should not be developed in isolation. It should align with the overall business strategy of a company, what means that sustainability implementation may significantly affect the overall business strategy and its goals in order to mitigate conflicting objectives. (White 2009; Teh & Corbitt 2015; Epstein & Roy 2001)

2.1 Supply chain management

Before defining what supply chain management is, it is important to consider what it actually manages – supply chains. There are plenty of definitions of the term “supply chain”. Some of them define a supply chain in a very simple way as “a set of firms that pass materials forward” (Mentzer et al. 2001, 3). However, in the modern economy, this term implies a much wider notion. Thus, according to Lu (2011, 9), “supply chain is defined as a group of inter-connected participating companies that add value to a stream of transformed inputs

from their source of origin to the end products or services that are demanded by the designated end-customers". Moreover, it is worth highlighting that nowadays supply chains often are very complex and they are not really "chains" but "networks", involving numerous suppliers and customers for most companies in the chains (Lu 2011).

Apart from the material flow, there are a lot of different types of flows in supply chains. Lu (2011) points out four main flows: material flow, information flow, finance flow and commercial flow. As for material flow, it includes the raw material at the point of origin, the finished products at the point of consumption and also all material transformations between these two points. One can say that information flow consists of various flows, like "demand information flow, forecasting information flow, production and scheduling information flows" etc. Speaking of information flows, it is worth mentioning that they can be directed in both ways, upstream and downstream. Finance flow means a flow of money that takes their origin from end-customers. When it comes to commercial flow, it reflects the transactional process, that is, the change of ownership of the material flow from one supply chain member to another one. (Lu 2011, 11) However, it is important to say that a lot of authors determine other different flows.

Moreover, there are different levels of complexity of a supply chain (Mentzer et al. 2001; Scott et al. 2011). Mentzer et al. (2001) mark three levels: a direct, extended and ultimate supply chain (see Figure 2). A direct supply chain is the simplest type, which consists of three companies, a 'focus company', a supplier and a customer. An extended supply chain has a more complex structure and includes also a supplier's supplier and a customer's customer. "An ultimate supply chain includes all the organizations involved in all the upstream and downstream flows of products, services, finances, and information from the ultimate supplier to the ultimate customer". (Mentzer et al. 2001, 4)

Despite the popularity of the concept of SCM and a huge number of research on this topic, sometimes there are still some confusions in the understanding of two concepts, logistics and SCM. Thus, it is important to describe both of them and to clarify the difference between them. "Logistics is the process of strategically managing the procurement, movement and storage of materials, parts and finished inventory (and the related information flows) through the organization and its marketing channels in such a way that current and future profitability are maximized through the cost-effective fulfilment of orders" (Christopher 2016, 2). It is also important to highlight that logistics is focused primarily to the processes of a single company and it has an orientation from inside the firm, coordinating activities and the flow

of materials into the organization and the movement of products from the organization toward the market. According to Christopher (2016, 2), “supply chain management builds upon this framework” but it also includes coordination and collaboration with all channel partners, which can be suppliers, intermediaries, third party service providers, and customers (Fristedt et al. 2012). Thus, the following definition of supply chain management is utilized in this study: “the management of upstream and downstream relationships with suppliers and customers in order to deliver superior customer value at less cost to the supply chain as a whole” (Christopher 2016, 3).

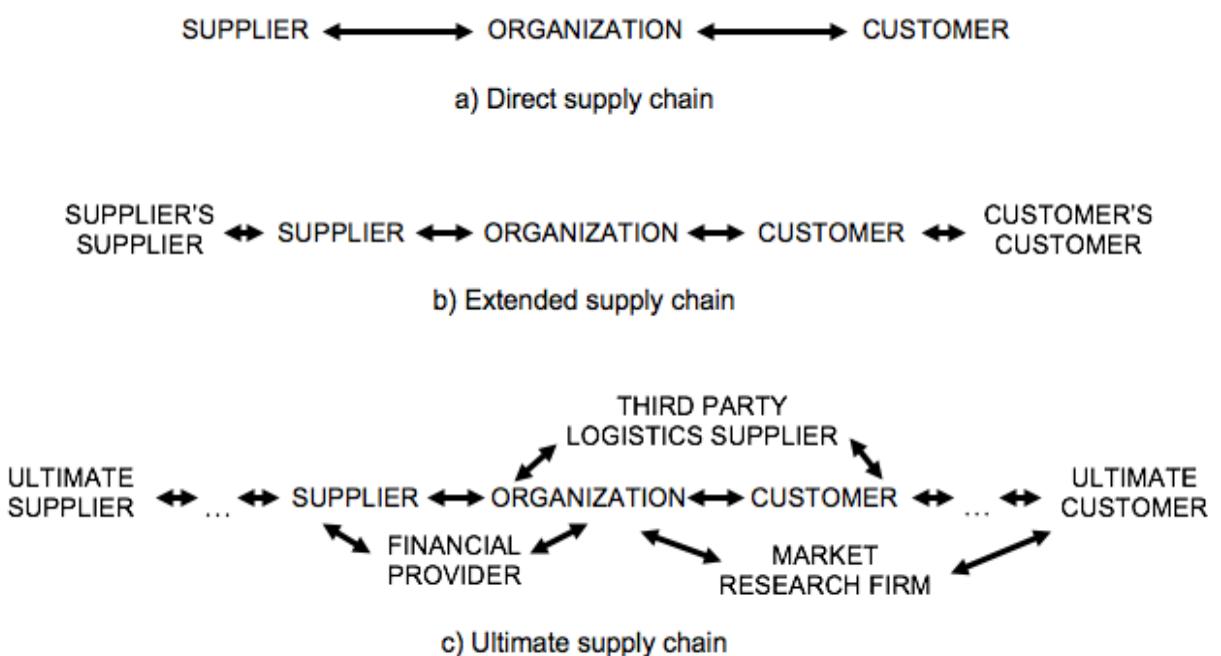


Figure 2. Levels of supply chain complexity (Modified from Mentzer et al. 2001)

In order to deliver a clear understanding of what SCM is, it is worth describing the four fundamentals of SCM. Together they identify the main elements of SCM and provide with a holistic picture of the essence of SCM. The four fundamentals of SCM are the following: setting SCM objectives, SCM philosophy, managing the flows, supply chain relationships (Sweeney 2002; Sweeney 2011).

Fundamental One: setting SCM objectives. Fundamental One recognizes the importance of objectives and sets out clearly the two basic SCM objectives: “to meet or exceed the required customer service level in target markets/segments” (Sweeney 2011, 34); to optimize costs and investments. Moreover, as “customer service improvements and cost

reductions might appear to be mutually exclusive" (Sweeney 2011, 36), there is an additional objective - to balance them in an effective way. (Sweeney 2011) In addition, since a supply chain is created to bring the value, another integral objective of SCM is "to create the most value, not simply for the company, but for the whole supply chain including the end customer" (Lambert & Cooper 2000, 82).

Fundamental two: SCM philosophy. The finished product reaches the final consumer through a chain of companies which typically includes suppliers, processors, distributors and retailers. Fundamental Two emphasizes the integrity of a supply chain. (Sweeney 2011) It says that all members of a supply chain are interdependent and that the total efficiency of the whole supply chain can be determined by the weakest link of this supply chain (Sweeney 2002). Thus, in order to be more effective, a supply chain should be shifted from fragmented to integrated (Sweeney 2011).

Fundamental Three: managing the flows. Fundamental Three describes the key to the question, how to get the integration (Fundamental Two). SCM integrates the functions of the buy–make–store–move–sell model by holistically managing the information, material, finance and other flows. (Sweeney 2011)

Fundamental Four: supply chain relationships. Fundamental Four states that the SCM philosophy requires a re-assessment of internal and external customer/supplier relationships. It is needed to understand that "SCM is not a 'zero-sum' game based on adversarial relationships". "Rather, it should be a 'win–win' game based on partnership approaches". (Sweeney 2011, 44)

2.2 Sustainability

The concept of sustainability has become very popular in the 21st century. The reason for this popularity is connected with the fact that the mankind has realized the harmful impact some business processes make on the environment. It has become obvious that the ecosystem is a basic support for the economy and, consequently, should be supported by the economy as well. Moreover, the way how society should be treated by business has been reconsidered. Thus, it has become clear that it is important to concentrate not only on the economic growth but also on environmental and social dimensions. (Kuhlman & Farrington 2010; Costanza et al. 1992; Dyllick & Hockerts 2002)

Therefore, sustainability aims to such development that implies a stable economic growth, which does not lead to environmental degradation and facilitates to social prosperity (Kuhlman & Farrington 2010; Costanza et al. 1992). Sustainability is a wide concept and can be considered at the different levels: a union of countries, a country, an industry, a supply chain, a company etc. When it comes to the business level, sustainability can be defined "as meeting the needs of a firm's direct and indirect stakeholders (such as shareholders, employees, clients, pressure groups, communities etc), without compromising its ability to meet the needs of future stakeholders as well" (Dyllick & Hockerts 2002, 131).

However, as it is mentioned in the introduction chapter, the majority of research on sustainability is focused on developed countries, while there are a few research conducted on developing countries. Nevertheless, it is a highly important field for study, since developing countries are the ones that have big problems with sustainability issues. According to Jayanti & Gowda (2014, 130), emerging markets face so-called 'sustainable dilemmas', because "rapid mass urbanization aimed at raising standards of living poses concomitant threats to environmental health". Adams (2008) also notes that developing countries mostly focus on the economic development, trying to strengthen their economy, what does not let them to think a lot of other issues like environmental or social sustainability.

In general terms, each company makes a decision whether or not to implement sustainability, taking into consideration its impact on financial performance. When it comes to developing countries, the trade-off between financial performance and sustainability implementation is essential. Jayanti & Gowda (2014) create a framework based on managerial choices within these two dimensions. The framework is presented in Figure 3, where sustainability performance is related to social and environmental pillars.

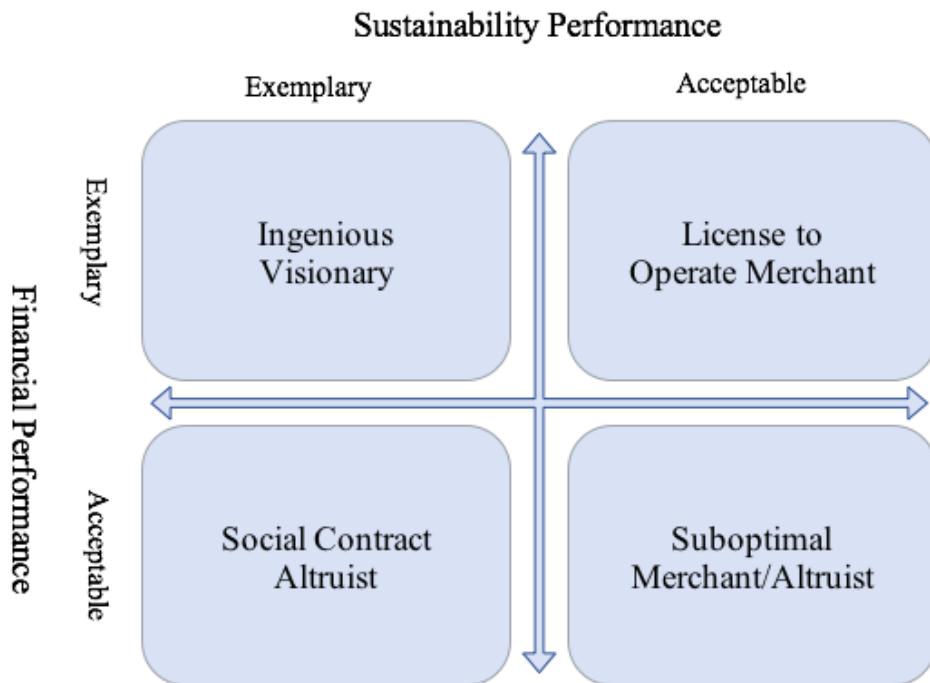


Figure 3. Dilemmas of sustainability and financial performance (Modified from Jayanti & Gowda 2014)

The ingenious visionary strategy implies integration of sustainability into a company's general strategy and receiving "superior return on sustainability investments". "The license to operate strategists view sustainability as a burden on their financial returns and often subordinate sustainability to economic viability". The social contract altruists realize the impact of their business on the environment and their obligations to society, so, they "consider sustainability as an obligation that needs to be paid forward". The last one is the suboptimal strategists, where companies do not show good results in either financial performance or sustainability implementation. (Jayanti & Gowda 2014, 132)

2.2.1 Corporate social responsibility

The topic of CSR has become widely discussed since the 1970s (Montiel 2008) and already in 1998 more than 80% of the Fortune 500 companies had CSR issues on their websites (Montiel 2008; Bhattacharya & Sen 2004). Nowadays one can say that this is a common practice for almost every company. Lord Sieff, the former chairman of a major British multinational retailer Marks & Spencer, claimed that "business only contributes fully to a society if it is efficient, profitable and socially responsible" (Moir 2001).

There are a lot of definitions of CSR and all of them converge that CSR is about the responsibility of a company to different stakeholders, which goes beyond economic and legal requirements (Montiel 2008). Thus, there is a view that a company is obliged, apart from making profit, to support society and to solve its problems, despite whether or not it is economically beneficial for a company (Holmes 1976). As business has more opportunities because of a large amount of resources, capabilities and power and society contributes to business a lot, making it more profitable and stronger, it is a moral obligation for a business to be involved in solving of social issues. However, there is another point of view on company's social responsibilities. Its advocates claim that the only social responsibilities of any business are "the provision of employment and payment of taxes". (Moir 2001)

CSR covers a wide range of social responsibilities in different areas: workplace (employees), marketplace (customers, suppliers), environment, community, ethics, and human rights. CSR can be understood more fully by describing the following key principles:

- "to treat employees fairly and equitably;
- to operate ethically and with integrity;
- to respect basic human rights;
- to sustain the environment for future generations;
- to be a caring neighbor in their communities". (Moir 2001)

Speaking of customers, according to Bhattacharya & Sen (2004), marketplace polls show that there is a strong positive relationship between CSR activities conducted by companies and customers' behavior towards these companies. This positive correlation makes companies willing "to devote greater energies and resources to CSR initiatives" (Bhattacharya & Sen 2004, 10). Companies have realized that through socially responsible behavior they can gain greater profits, enhance the brand value, customer loyalty and employee retention level (Bhattacharya & Sen 2004; Moir 2001).

2.2.2 Environmental sustainability

Nowadays the part of sustainability which is devoted to environmental issues is sometimes considered as the most important one. Customers realize the negative contribution corporations make to environmental conditions and corporations' opportunities to contribute to solving environmental problems as well as they realize their power to influence corporations' responsible behavior. Moreover, speaking of the role of environmental

sustainability in the whole concept of sustainability, it is worth emphasizing that some researchers claim that sustainability is only about the dualistic society-environment relationship, while other ones state that it should be considered from the economy-society-environment point of view (Morelli 2011).

Considering sustainability as the three-legged model, there might be a question raised: Is there any hierarchy of the values of these 'legs' in this model? There is no clear answer to the question but Morelli (2011) has tried to find it out. It is difficult to imagine a sustainable society without having support (at least a resources provision) by the sustainable environment. When it comes to the economic element of sustainability, one can say that sustainable economy also has no future without "a sustainable flow of material, energy, and environmental resources" (Morelli 2011, 4). However, the environment can be sustainable without even existence of society or economy. Thus, being the only system that remains sustainability by itself, "it should be the model to emulate". (Morelli 2011, 4)

Morelli (2011, 6) defines environmental sustainability "as meeting the resource and services needs of current and future generations without compromising the health of the ecosystems that provide them". Environment sustainability implies an adoption of green initiatives and practices by a company that are aimed to minimize the negative impact on the environment (Klassen & McLaughlin 1996; Evangelista et al. 2017). There are three categories of green initiatives and practices, which can be conducted by companies:

- administrative (creating special teams that will be responsible for company's sustainability progress, developing a system of short- and long-term sustainability goals for different business units and for business as a whole etc.);
- analytical (investing in evaluation software, using environmental checklists etc.);
- transportation-related (increasing efficiency of vehicle use, using alternative fuels etc.);
- "other" category (Evangelista et al. 2017).

In the modern economy one can say that, apart from legislation on the development of environmental sustainability which plays a significant role in developed countries, there are other motivating factors that make companies willing to adopt green initiatives (Azapagic 2003). The majority of modern companies has realized the value and profitability of these initiatives. First of all, supporting sustainability leads to stronger reputation and more attractive image of a company (Evangelista et al. 2017; Azapagic 2003). Other key

advantages of green practices are cost savings and innovative solutions (Azapagic 2003). Moreover, such a 'green' reputation of a company will help to attract the most skilful employees, as nowadays the motivation to work for a lot of people is not limited to the size of remuneration and their motivation is also to make the world a better place to live through different sustainable practices (Azapagic 2003).

2.2.3 Triple Bottom Line

At the end of the 20th century, the concern about environmental degradation increased significantly; people started realizing the negative influence of businesses on the environment and on society in general (De Giovanni 2012). It was a key precondition for creating Triple Bottom Line (TBL) approach. The big contribution was made by the efforts of John Elkington, who wrote a book "*Cannibals with Forks: the triple bottom line of 21st Century Business*" in 1997, having described this concept quite precisely (Milne & Gray 2013, Norman & MacDonald 2004).

The main idea of TBL is that success of a business should be managed, measured and reported in terms of not only "the traditional financial bottom line, but also by its social/ethical and environmental performance" (Norman & MacDonald 2004, 243). Thus, companies should define and calculate key performance indicators, conduct auditions and make reports not only in financial performance field but taking into consideration whole fulfilment of obligations to their stakeholders, including social and environmental elements (Milne & Gray 2013; Norman & MacDonald 2004). Wheeler & Elkington (2001) emphasize that the basis for the implementation of the triple bottom line is mainly not moral or accountability reasons, but the understanding that "it adds real value for stakeholders and assists companies in successfully navigating their marketplaces" (Wheeler and Elkington 2001, 13).

There are three key groups of stakeholders, towards whom corporate sustainability principles can be applied. The first group is stakeholders who are directly involved in business and called 'internal'. This group includes all employees working in a company, including top-level and mid-level management. Improvement of working conditions, employee training and education, career advancement can be examples of methods which lead to stronger corporate social responsibility. Moreover, an adoption of such concepts as Six Sigma or lean manufacturing also enhances corporate social sustainability as well as environmental sustainability "due to better utilization of resources and reduction of emissions" (Schulz & Flanigan 2016, 450). External stakeholders constitute the second

group of stakeholders. It includes all important organizations (upstream, downstream and lateral) in a supply chain that add value to the final customer of product or service. The third group includes outside institutions that do not directly participate in the value-adding process in a supply chain. This group generally has the least level of influence on the company's performance, however, one can say that the influence is still significant and, in some cases, crucial. The group includes government and non-government agencies, different regulatory bodies and foundations etc. It can "be considered the rest of the world (ROW)". (Schulz & Flanigan 2016, 450)

3 Practices, motives and barriers of SSCM

In the previous chapter, the concept of sustainable supply chain management is defined. Moreover, both concepts, supply chain management and sustainability, are described, providing a comprehensive understanding of what sustainable supply chain management is. However, in order to create a strong background for the empirical part of the study, it is also important to consider existing practices, motives and barriers of SSCM. Thus, in the following chapter, the main practices of SSCM are defined and explained. Then, the previous literature on the main restraining and motivating factors that affect a decision-making process related to sustainability implementation in supply chain management are analyzed.

3.1 Practices of SSCM

In this sub-chapter the different practices of sustainable supply chain management are described. It introduces basic practices like sustainability reporting and sustainable supplier performance evaluation and also other common social and environmental sustainability practices like electricity usage reduction and employee development.

3.1.1 Sustainability reporting

Since the level of awareness of a negative impact on environmental by businesses and the level of understanding of the fact that companies should be responsible for social issues have increased, the society's and governments' pressure on companies has increased as well. Thus, companies, especially big ones, were forced to publish not only their sustainability objects but also report on their results in different sustainability areas like human rights protection, greenhouse gases emissions reduction and other ones related to other externalities of SCM activities. Since the first sustainability report was published in 1989, a number of companies conducting sustainability reporting have significantly increased. (Kolk 2003; Eweje 2011)

Nowadays the sustainability reporting is a common practice for a lot of companies. It implies a publication of information on companies' environmental and social sustainability policies and their progress in these fields. The sustainability report is supposed to be linked to an overall business strategy of a company. (Kolk 2003; Eweje 2011) Although the sustainability reporting is related to non-financial issues, Willis (2003, 233) claims that it should have

qualities of financial reporting: “rigour, comparability, auditability and general acceptance”. Despite the fact that the sustainability report is supposed to be public, it can be documented only internally. In addition, Eweje (2011) emphasizes the importance of the report verification by a third party. However, in her research a manager of one of the studied companies claims that the company utilized the report verification for several years in a row, but then the company decided that, as it uses the same methodology as a third party does, there is no value added by the verification, though it requires significant amount of money.

However, although the sustainability reporting has become quite a popular practice among a lot of companies, there are significant differences between countries and industries (Eweje 2011). Such situation “can be linked to the level of regulatory and societal attention” in different countries. While some governments develop “legislation on environmental and social reporting” and create official reporting guidelines, other ones do not pay much attention to sustainability issues. (Kolk 2004, 53) For example, “in Norway and Sweden, government regulations have obliged companies to include environmental information in their financial reports from 1999 onwards (Kolk 2003, 285). Thus, the companies, that are going to operate internationally, are likely to face the need of sustainability reporting “due to stakeholder pressure that will be encountered in international markets” (Eweje 2011, 133).

3.1.2 Supplier’s sustainability performance evaluation and collaboration

When it comes to sustainable supply chain, it is important that not only a company itself is environmentally and socially sustainable but also all members of a supply chain should adhere to sustainability principles (Amindoust et al. 2012). Traditionally, evaluation and selection of suppliers involve such criteria as cost, lead time and quality. However, in order to understand whether a supplier is sustainable or not, a wider range of factors should be considered. Nevertheless, despite the fact that sustainability has become a buzzword, there are a few studies on supplier’s sustainability performance evaluation. (Govindan et al. 2013; Amindoust et al. 2012) However, Govindan et al. (2013) highlight that a number of research on this topic has started to increase.

Apart from economic criteria, environmental and social criteria should be added to supplier evaluation to get a holistic view of supplier performance. Speaking of environmental criteria, Govindan et al. (2013, 3) point out “pollution production, resource consumption, eco-design, environmental management system”. Pollution production includes evaluation of amount of

GHG emissions and other harmful materials and water pollution. Eco-design means such design of production that leads to less consumption of resources and implies recycling. Moreover, evaluating sustainability performance of supplier, it is also important to take into consideration the overall environmental management system, including environmental strategy, setting environmental objectives and environmental progress measurement. (Govindan et al. 2013) Amindoust et al. (2012) note the similar criteria, disclosing them in more narrow criteria and adding innovation; thus, their environmental section in supplier evaluation counts to fourteen indicators. When it comes to social measures, Govindan et al. (2013) divide them into two main groups: internal and external social measures. Internal social measures include employees' rights and safety. They evaluate diversity in a company, flexible working opportunities, employee development, career advancement etc. External social measures are directed on the evaluation of supplier's influence on community and other stakeholders. (Govindan et al. 2013; Amindoust et al. 2012)

In addition, just to select a sustainable supplier is not enough from the point of SSCM. According to Govindan et al. (2013), "cooperation among organizations along the supply chain while integrating <...> all three dimensions of sustainable development (economic, environmental, and social) into account" is an integral part of SSCM. In this case, a creation of a supply base from sustainable suppliers, who are interested in development in the sustainability field, may be the first step towards sustainable collaboration. According to Hollos et al. (2012, 3), sustainable supplier cooperation is "a process <...> to conduct coordinated actions and work together over extended periods of time to achieve enhanced sustainability of the supply base, thereby generating benefits for the buying and supplying firm". It is also worth emphasizing that sustainable collaboration between companies from developed countries and those from developing countries is highly important, as companies in developing countries usually cause a bigger number of sustainability risks and companies from developed countries have knowledge and resources to share in order to improve the overall sustainability performance of a supply chain. (Hollos et al. 2012)

3.1.3 Measurement of Environmental Impact of SCM Activities

There is a widespread business mantra 'if you cannot measure it, you cannot manage it' in the modern world. Indeed, speaking of sustainable supply chain management, it is important to highlight a paramount role in logistics' environmental impacts measurement. It is a starting point for any kind of programs toward minimization of the negative environmental footprint (The Carbon Trust 2012). As one of the most serious impacts

logistics exerts is Greenhouse Gases (GHG) emission, this section will be focused on carbon auditing.

To start, a carbon footprint is a measure of the total CO₂ and other GHGs (expressed in CO₂ equivalent) emissions that are directly and indirectly caused “by an individual, organization, event or product” (The Carbon Trust 2012, 2). As one can see from the definition, the carbon footprint has diverse levels of disaggregation; Alan McKinnon (2010) also highlights supply chain level. After the analysis of two reputable guidelines developed by The Carbon Trust (2012) and WBCSD&WRI (2004), the key steps of carbon auditing were noted as follows.

Select a method and a calculation approach. To provide the most accurate results, it is highly important to use one method along with an organization or supply chain (The Carbon Trust 2012). It can be any guideline which a company confides. As for the calculation approach, there are several opportunities: to measure directly “by monitoring concentration and flow rate”, to calculate “based on a mass balance or stoichiometric basis specific to a facility or process”, to calculate “through the application of documented emission factors” etc. (WBCSD&WRI 2004, 42)

Define boundaries. There are three ‘scopes’ of emission. Scope 1 is direct GHG emissions from sources owned or controlled by the audited company. Scope 2 accounts indirect GHG emissions from the generation of electricity purchased from external suppliers. Scope 3 means other indirect GHG emissions (for example, emissions from outsourced activities). A company should include at least scope 1 and 2 in its carbon footprint report. (WBCSD&WRI 2004; The Carbon Trust 2012; McKinnon 2010)

Collect the data and apply emission factors. As it was mentioned earlier, the carbon footprint is expressed in CO₂ equivalent. Thereby, it is calculated by activity data collation through multiplying it by standard emissions factors (The Carbon Trust 2012).

Verification step. This step is highly significant in carbon auditing, as it can add more confidence to a company’s report and make it more accurate, however, The Carbon Trust (2012) marks it as an optional step. A company may opt for calculating the results twice by different employees. Moreover, a third party may act as an inspector in this process (The Carbon Trust 2012).

3.1.4 Route Optimization

Speaking of routes optimization, it is important to note that this process is a part of not only sustainable supply chain management but conventional one as well. Actually, supply chain management in many respects is about flows optimization, where tangible flows are usually presented as routes. However, while conventional SCM considers the routes optimization mainly in the context of cost savings and value added, SSCM applies it, taking sustainability as the most priority criterion.

First of all, before describing ‘how’ the issue ‘why’ will be discussed. The graphical view of results of typical routes optimization is shown in Figure 4. Assuming L is a Logistics Center, from which the products are distributed to eight clients (A1 – A8). As one can see, without optimization the distribution from L to all clients goes through four logistics transport routes, while the optimized distribution demands only three. According to this example provided by Kong & Xu (2014), the total transport distance of the four routes (Figure 4 (a)) is 99 km and the distance of three transport routes (Figure 4 (b)) amounts in 83 km. Thus, the optimization of distribution routes in this particular example has turned into distance shortening of 16 km. (Kong & Xu 2014) If the distribution through these routes occurs, for example, once a week, it means that a company may ‘save’ 832 km a year, which leads to significant GHG emissions reduction (and cost savings, simultaneously).

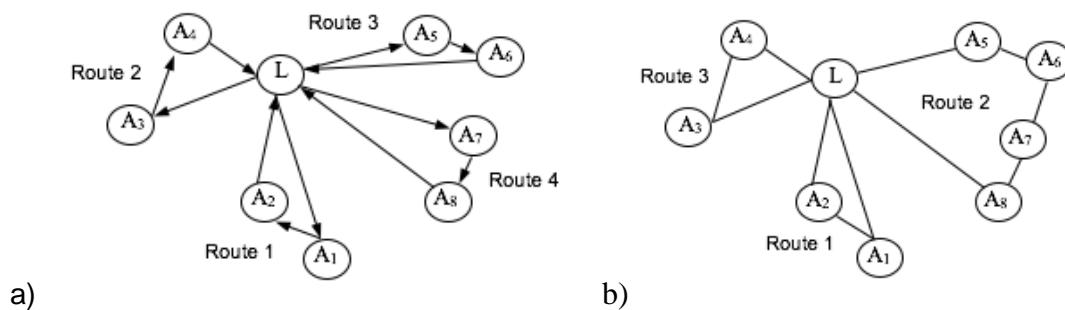


Figure 4. Distribution transport routes optimization (Modified from Kong & Xu, 2014)

Significant elements of route optimization process are a collection center (CC) and a distribution center (DC). There are several methods to define the optimum location for them and two of them, the most popular ones, will be described: Centre-of-Gravity technique and Load-Distance technique. The first method uses “the distance goods transported and weight of the delivered products” to define the best location (Bosona et al. 2011, 176). Centre-of-

Gravity method supposes using straight-line distances between producer/retailer and CC/DC, marking their coordinates on a map. “The second method is used when different options of locations are suggested, and the product of load and distance is used as measuring value”, then the location with the lowest load-distance value is selected. (Bosona et al. 2011, 176)

Finally, there are different levels of supply chain members' (producers, retailers, CC, DC) ‘collaboration’. The lowest level means the situation when producers distribute directly to retailers by themselves (without using CC and DC). The next level is when producers do collection by themselves, but distribution is conducted by DC. Higher ‘collaboration’ level supposes collection by CC and distribution by DC. The highest level is integrated collection and distribution. What is the most significant in the environmental context here is the higher level of ‘collaboration’ is, the less GHG emissions are. (Bosona et al. 2011)

3.1.5 Other practices

Environmental sustainability practices

Some practices directly connected with environmental sustainability are described above. However, since SCM activities cause a big number of environmental risks, there are a lot of environmental sustainability practices utilized by companies. Das (2017, 1347) points out “substitution of hazardous materials, designs focused on reducing the consumption of energy, resource and generation of waste, recyclable or reusable packaging in logistics etc.”. Moreover, the annual report of the state of green business (2017) by GreenBiz identifies “greenhouse gas emissions, energy-generation mix, water use, and waste generation” as the most significant factors that should be taken into account while conducting environmental sustainability practices (Makower 2017).

Speaking of the energy usage, it is important to emphasize that the problem itself is mostly that the energy usage generates significant amount of GHG emissions. For example, in the USA 30 percent of all GHG emissions are generated by industrial energy consumption. Regardless where energy is used: manufacturing, storage or transportation, there is an energy wastefulness and there are a lot of opportunities to improve the efficiency of energy usage. (McDougall 2013) As it is mentioned above, the first step is an audit. An energy audit helps to reveal the processes that consume energy the most and to develop the ways to increase efficiency of energy usage. One of the most obvious techniques to decrease energy consumption is to replace old equipment with energy-efficient one. Moreover, there

is a big potential in increasing energy efficiency by utilizing renewable energy sources like solar or wind power. Alternative energy sources may significantly contribute to decrease of energy costs and they also do not generate any GHG emissions. (Stahley 2017; McDougall 2013)

It is also worth mentioning the sustainability issues connected with waste since, according to Kilpatrick (2003), waste may account up to 95% of all costs in a company. By elimination of waste in a supply chain, not only financial performance can be improved but also a negative impact on the environmental can be reduced (Dües et al. 2013). Waste is considered not only as used resources that cannot be utilized in manufacturing any more but also all activities that consume resources but bring no value. Taiichi Ohno (co-developer of the Toyota Production System, which Lean is originated from) identified seven types of waste:

- overproduction;
- waiting;
- excessive transportation;
- inappropriate processing;
- unnecessary inventory;
- unnecessary motion;
- defects (Hines & Taylor 2000; Kilpatrick 2003; Demeter & Matyusz 2011; Hines & Rich 1997; Wahab et al. 2013).

Speaking of the waste, it is important to describe shortly each type. Overproduction is considered by a lot of researchers as the most crucial waste (Hines & Rich 1997; Wahab et al. 2013). Overproduction means producing more goods than the market needs. These ‘not-needed goods’ just “tie up valuable labor and material resources that might otherwise be used to respond to customer demand” (Kilpatrick 2003, 1). As for waiting, according to Wahab et al. (2013), it is probably the second most significant type of waste. Waiting is an ineffective use of time and it occurs when goods are not being worked on. Moreover, one can say that ‘in logistics context’ waiting also means the situation when goods are not moving. It is important to highlight that waiting affects both the goods and workers. (Wahab et al. 2013; Hines & Rich 1997) Excessive transportation leads to additional costs and GHG emissions. This type of waste can be eliminated by utilizing a special technique, which is called point-of-use-storage when the material is “shipped directly from the vendor to the

location in the assembly line where it will be used" (Kilpatrick 2003, 1). Speaking of inappropriate processing, it is worth mentioning that there are two types of inappropriate processing: not sufficiently quality processing and unreasonably complex processing. In the first case, the waste "refers to machines and processes that are not quality-capable" (p.1296). The reason also can be in using the wrong set of tools, techniques or systems. As a result, it leads to such wastes as defects and waiting. Unreasonably complex processing occurs when a too complicated set of techniques or machines is used in situations where simple solutions can be applied. (Wahab et al. 2013) Unnecessary inventory usually follows from overproduction that implies an additional volume of goods, which cannot be sold now because there are no customers on the market need it. In addition to the problem of 'freezing' of resources in the excess goods, it leads to unnecessary inventory and, respectively, to additional costs and energy usage. When it comes to unnecessary motion, first of all, it comes from a poor organization such as not optimally designed transport routes, ineffectively organized distinct workplace or manufacturing process in general. (Wahab et al. 2013; Hines & Rich 1997) The last type of waste is defects, which are the most evident type of waste. They waste resources twice: firstly, resources are used to create the defected product and, secondly, they are used to repair the defect if it is possible at all (at the worst, this product is discarded, and the same amount of additional resources is used to create new one instead of it).

The topic of waste reduction is tightly connected with a Lean concept. Thus, the majority of waste reduction practices implies an integration of Lean principles into the company's culture. Moreover, the role of collaboration along a supply chain in order to reduce generated waste is also emphasized in the literature on this topic. In addition, the following waste reduction techniques are widely utilized by members of supply chains: product redesign, process redesign, prolong use, remanufacturing, returnable packaging, waste segregation and recycling. (Dües et al. 2013)

Social sustainability practices

In a broad sense, supply chain social sustainability (SCSS) deals with the aspects related to products and processes that may have an influence on safety and welfare of people in general (Mani et al. 2015; Marshall et al. 2015; Mani & Gunasekaran 2018; Mani et al. 2018). To be more specific, one can say that SCSS means "the management of social issues such as equity, safety and health, product responsibility, human rights, and philanthropy throughout the supply chain" (Mani & Gunasekaran 2018, 151). Social aspects

can be considered at three levels of stakeholders. The first internal level is directly related to the company's operations and mostly focused on employees of a company. The second level includes relationships with suppliers and customers. The third level is external one; it involves such stakeholders as government and community in general. (Mani et al. 2015)

Speaking of the first level stakeholders – company's employees, it is worth emphasizing that in order to develop a socially sustainable supply chain, first of all, a company itself should be socially sustainable and create programs related to employees' development, safety and health (Mani & Gunasekaran 2018). The government of Canada has developed Sustainability Roadmap for companies, where the specific social sustainability practices are thoroughly described. It covers the following aspects: "workplace practices, training, safety, health and wellness, work-life balance, diversity, and living wages". Among practices that facilitate to maintain a work-life balance, there are flexible work schedules, ability to work from home, time off for personal issues, reduced workload, part-time work, flexibility in scheduling vacation, job-sharing. Moreover, child care and elder care support is emphasized as one of the social sustainability practices. Diversity implies equal rights, conditions etc. to everyone; this topic covers different social aspects like "gender, ethnicity, disability, age, sexual orientation or belief". Besides, employee development programs are highly important as they can not only improve the financial performance of a company but also increase employee satisfaction. (Government of Canada 2018) In addition, Mani et al. (2015) also emphasize the importance to provide an opportunity to take part in decision-making process to employees of different levels.

The second level of stakeholders goes beyond a firm itself and extends to other supply chain members. In order to implement social sustainability across a supply chain, it is important not only to develop sustainability strategy and practices within a company but also to opt for socially sustainable suppliers and to enhance relationships with them to commit sustainability goals together. It may require creating specific purchasing criteria that will be directly connected with social sustainability and will motivate potential suppliers to implement the needed social sustainability practices. (Mani & Gunasekaran 2018) Moreover, it is important to monitor existing suppliers' "compliance with regulations around child labour, forced labour or working practices" (Mani et al. 2015, 676)

When it comes to the third level of stakeholders – community and government, apart from legislation compliance, a company can take part in community involvement and development. According to Forbes Human Resources Council (2017), community

involvement is a perfect practice to enhance relationships with customers and society in general. One of the most common ways of community involvement and development is a philanthropy (Mani & Gunasekaran 2018).

3.2 Motives for SSCM implementation

In the chapters above, sustainability and SSCM practices were defined and described. However, what motivates companies to adopt these practices? A lot of research state that there is a plenty of drivers to introduce sustainability principles into business, apart from legislation (Azapagic 2003; Sajjad et al. 2015; Mann et al. 2010; Paulraj et al. 2017). Describing the motivators of SSCM strategy adoption will give a fuller understanding of what SSCM is in the modern business world. In this chapter, the main drivers will be presented, based on the analysis of the existing literature on this topic.

All motivation factors are mainly divided into two categories: external and internal drivers. Internal drivers are those that directly relate to business and include implementation of sustainability principles as a strategic tool to reach economic goals, to enhance process performance and implementation driven by ethic values of company's board of directors and employees etc. (Sajjad et al. 2015; Mann et al. 2010) External drivers include those that originate from society, market and government (Sajjad et al. 2015). However, despite the fact that such a classification is supported by a lot of researchers, there are still some disputes concerning what to include in each category. For example, while Sajjad et al. (2015) include customers into external drivers, Mann et al. (2010) say that customer-related drivers are internal.

Legislation. The first driver is the most obvious one and the most powerful one; Mann et al. (2010) call it the 'mother of all drivers'. It plays a huge role in the SSCM practices implementation, having very strict rules on some markets (Azapagic 2003; Sajjad et al. 2015; Mann et al. 2010). There are different forms of legislation: it may be general environmental laws like 'polluter pays' (Azapagic 2003; Mann et al. 2010; Van Nunen & Zuidwijk 2004) "or it may be specific, for example mandating a given recycled content in new products" (Mann et al. 2010, 54). Legislation driver is usually connected with financial drivers, as some of the environmental regulations imply legal penalties and fines, which are quite big and affect the financial performance of a business significantly (Sajjad et al. 2015).

“Legislation, in turn, may be driven by issues like government's concern for environmental degradation, public opinion or pressure, lobbying by interest groups, shortage of resources” (Mann et al. 2010, 54).

Financial drivers. This group of drivers comes from other drivers like efficiency increase and innovations. Implementation of sustainable practices may lead to better overall financial performance due to cost reduction, revenue increase (Azapagic 2003; Sajjad et al. 2015; Mann et al. 2010) and also due to “easy access to lenders, insurers, preferential loans and insurance rates” (Azapagic 2003, 302).

Risk mitigation. Unsustainable supply chain practices may lead to increasing potential social and environmental risks or even business loss. Unsustainable company's behavior may cause public protests and significant damage to reputation. These risks can be avoided, mitigated and managed by SSCM practices implementation. (Sajjad et al. 2015)

Reputation drivers. While unsustainable supply chain practices lead toward reputation risks and potential damage of brand value (Sajjad et al. 2015), a SSCM strategy can enhance customer loyalty and improve reputation (Azapagic 2003; Sajjad et al. 2015). In turn, it increases sales volumes (Sajjad et al. 2015), helps “to attract the best people to join the company” (Azapagic 2003, 304), gives an opportunity to raise the price of a product and increases share price of a company.

Environmental drivers. Speaking of motivators for sustainable practices adoption, some researchers miss very important one – ‘green’ values of a management team. That is, according to Mann et al. (2010, 54), companies can implement sustainability into their strategy not “only when forced by legislation or by customers”. Thus, in cases, when the management team is inclined to environmental consciousness and ready to some changes in company's operations and additional expenses, it can be a critical factor in the decision whether or not to adopt sustainability principles (Sajjad et al. 2015).

3.3 Barriers for SSCM implementation

Despite the various drivers described in the previous chapter, there are a lot of challenges that inhibit the adoption of SSCM practices. All SSCM barriers can also be divided into two categories: internal and external barriers. Internal barriers include company-related

challenges such as lack of financial opportunities, capabilities or readiness for changes and “inadequate support of top management” (Sajjad et al. 2015, 645). External barriers imply factors from external environment that negatively affect company's potential to implement SSCM practices. This includes the significant distinction between customers' opinion about sustainable products or services and customers' real purchasing behavior and “lack of government support”. (Sajjad et al. 2015, 645) Below the key barriers to SSCM practices implementation will be described.

Financial constraints. Despite the fact that financial drivers were mentioned in the previous chapter as ones of the key drivers for adoption of SSCM practices, costs of such an adoption are significant challenge in this process for a lot of companies (Baddeley & Font 2011; Sajjad et al. 2015), and Pereseina et al. (2014, 24) claim that “the majority of the research states that it must pay to be sustainable”. Indeed, some sustainable practices imply huge investments and, at the same time, they may be not so profitable (at least in short-term period). In some cases of sustainable practices implementation happened due to sustainable regulation, these adoption processes may affect supply chain members' “competitiveness and profits as much as they transform production/service methods and systems” (Pereseina et al. 2014, 24).

Human barriers. This group includes such factors as lack of moral and ethical values and, respectively, lack of willingness to adopt sustainability at the administrative level (Movahedipour et al. 2017; Pereseina et al. 2014; Sajjad et al. 2015). The support of top and middle-level management is highly important when it comes to implementation of SSCM practices (Pereseina et al. 2014; Sajjad et al. 2015). However, when there is a ‘green’ mindset at the administrative level, there still can be some problems at the lower levels – resistance to change. Readiness to changes at all levels of an organization is one of the keys to successful implementation of sustainable principals. Such methods as training programs can help to overcome this barrier.

Complexity. Implementation of sustainability into supply chain management and logistics implies a lot of factors that should be considered. It may include the choice of material and fuel, supplier selection, the routing, engineering issues etc. Another challenge is a "tradeoffs between environmental effects and delivery times". (Abbasi & Nilsson 2012, 525) SSCM performance measurement also makes sustainability practices adoption much more complicated task (Abbasi & Nilsson 2012; Sajjad et al. 2015). As a rule, “it involves

measuring the performance across the supply chain operations at supplier, manufacturer, distributor and retailer levels" (Sajjad et al. 2015, 646).

Customers. The main barrier related to customers is the lack of demand. That is, despite the fact that a lot of surveys show that customers are inclined to 'green' products, in reality, they can show insignificant interest in such products (Baddeley & Font 2011). Speaking of this situation, it is worth mentioning a tradeoff between cost savings and sustainability implementation. Thus, as a huge number of customers often prefer lower prices, a cheaper product with poor environmental attributes can be more competitive on the market (Pereseina et al. 2014; Sajjad et al. 2015).

4 Empirical study: SSCM in Russia

The aim of the first part of the research is to create a comprehensive understanding of the studied topic by the review of a wide range of the existing literature on the topic. Thus, the theoretical part of the research is a background of the empirical study, which is introduced in this chapter. First of all, the chapter introduces the research methodology, describing how the empirical research is developed and designed. Then, an overview of all three case companies is presented. The focus of the last part of the chapter is on the findings of the empirical research and their analysis. The findings are revealed from the conducted survey, which consists of three parts in order to get a holistic view of the sustainability implementation in SCM in the case companies and also barriers and drivers for that. All the findings are presented for each case company and then the overall results are analyzed. The empirical results are summarized in the following chapter 5.

4.1 Research methodology

The theoretical part serves as a basis of the empirical research. It provides an extensive picture of the studied topic. The literature review consists of the explanation of what supply chain management is, the describing the main sustainability concepts and then, combining both these topics, leads to the understanding of sustainable supply chain management, the main practices of it and the main barriers and motives for sustainability implementation. Thus, taking the reviewed literature as a background, the research methodology and techniques are developed and designed.

In the sub-chapters below, the research methods and design, data collection and analysis are described. The sources of primary and secondary data are defined; the methods for gathering and analyzing the data are determined. The aim of this is to explain and justify the empirical framework of the research.

4.1.1 Research methods and design

There are two main parts of the study: theoretical and empirical parts. The theoretical part provides extensive information regarding sustainability in supply chain management, important sustainable concepts and practices, and main barriers and motives for SSCM implementation. The theoretical part plays a role of a basis for the empirical part. Only being supported by the theoretical part, the empirical one has an opportunity to provide a holistic

answer to the research question. The reviewed literature is used for a deeper analysis of the case companies. The aim of theoretical part is to create a comprehensive picture of sustainable supply chain management, that is utilized in order to analyze the collected data and to draw a conclusion from the analysis. Thus, the theoretical and empirical parts together represent a strong combination for answering the research questions.

Speaking of the empirical part, it is worth mentioning different types of research methods. There are two main types utilized in research: quantitative and qualitative methods. Quantitative methods imply gathering and analysing data, which are presented in a numerical format (Yoshikawa 2008). Typically, techniques, that can gather the data for the following statistical analysis, such as “questionnaires with a limited range of predetermined responses” (Sale 2002, 44) are used in quantitative methods. As opposed to quantitative methods, qualitative ones use non-numerical data, such as “words, texts, narratives, pictures, and/or observations” (Yoshikawa 2008, 344). Qualitative methods imply relatively small samples, but the used techniques allow a deeper understanding of the studied phenomena (Sale 2002).

In order to answer the research questions, mixed research method is used. The mixed research method includes collection, analysis and drawing conclusions from both quantitative and qualitative data in a single research. This choice is justified by the fact that, applying the mixed research method, a researcher can get a more holistic understanding of the explored situations and objects. (Cameron 2011) Despite the fact that the survey used in this research utilizes both qualitative and quantitative techniques, a significant emphasize is on qualitative data, because a case study usually involves a research strategy, which is used “when conducting a qualitative research” (Kähkönen 2011, 31). Moreover, like the majority of research utilizing multiple case studies, this research will also include a comparative aspect.

4.1.2 Data collection and analysis

The research uses both primary and secondary data, taking primary data as a base for the research. According to Sreejesh et al. (2014, 17), “primary data are the data that are gathered first hand to answer the research question being investigated”. As for secondary data, typically, this is data that have already been collected and published.

There are two main approaches to gather primary data from case companies: an interview and a survey. Speaking specifically of the given study, it was decided that a survey would

suit the research the most. One of the main reasons for that is a convenience for the case companies' representatives, as, taking into consideration some cultural aspects of Russia, one can say that it would be much more difficult to conduct an interview. The designed survey allows to gather both quantitative and qualitative data. Moreover, some informal discussions with the case companies' employees and own observations of the researcher will be used as a source of data. As for secondary data, the main source of them is the websites of the case companies.

Thus, in order to collect the empirical data, the survey is used. The survey was presented in an Excel file and was sent to the case companies' representatives via mail. Moreover, there were informal discussions related to the topic via phone with the majority of the representatives. The survey consists of three parts: a sustainable supply chain model, a questionnaire related to barriers and drivers for sustainability implementation, and open questions. The survey is translated in Russian for one case company, as its representatives do not speak English, and then the answers are translated back in English; the representatives of two other case companies have completed the survey in English.

As a framework for the sustainable supply chain model, the purchasing maturity model developed by Úbeda (2015) is used, but the content itself is developed by the researcher, based on the literature review and the context of the case companies and the country the survey is conducted in. The model itself is divided into three parts, seeking for the information related to three aspects: social sustainability, environmental sustainability and sustainability in general. As it is mentioned in the introduction chapter, the research does not concentrate on financial side of sustainability. The research aims to find out, to what extent Russian companies try to minimize a negative impact on the global or local environment and society, not taking into consideration their financial performance. Thus, the developed survey is focused on the evaluation of the company's concern for and involvement in social and environmental issues. It is also worth mentioning that as the case companies operate in different industries, it was decided to keep questions at the general level. The sustainable supply chain model is presented in Appendix 1.

The second part of the survey is the questionnaire about barriers and motives. The aim of it is to understand which restraining and stimulating factors are seemed to influence on sustainability implementation in the case companies. This questionnaire is designed by Aarnio (2018), but also all the given barriers and drivers are reviewed in the theoretical part. The questionnaire is presented in Table 1.

Table 1. Questionnaire: Motives and barriers for sustainability implementation (Aarnio 2018)

Motives (M) and barriers (B)	Answer choices		
	Agree	Difficult to say	Disagree
Positive brand image (M)			
Reduced costs (M)			
Increased productivity (M)			
Regulation compliance (M)			
Waste reduction (M)			
Stakeholder attraction (M)			
Increased innovation (M)			
Employee attraction (M)			
Competitive advantage (M)			
Risk management (M)			
Diminishing energy consumption (M)			
Improved relationship (M)			
Increased costs (B)			
Decreased productivity (B)			
Lack of regulation (B)			
Cost of implementation (B)			
Resource requirements (B)			
Stakeholder attraction (B)			
Level of awareness (B)			

The third part of the survey includes three sections of open questions, what allows to gather quantitative data for deeper analysis of the studied situation. It is used in the combination with the sustainable supply chain model to get the holistic picture of the sustainability role in SCM in the case companies. The three sections are the following:

1. What priority does sustainability (environmental and social) have in company's supply chain management? What changes does it undergo? Why?
2. What does the company focus on in SSCM? Which direction in sustainability is more important for the company: environmental or social?
3. What directions of SSCM development does the company see in its future?

The survey was sent to the chosen representatives of the case companies. In order to get a wider picture of the current situation related to sustainability in Russia, it was decided to opt for companies from different industries. All the case companies are large enterprises and operate on a wide geographical territory. Two companies originate in Russia, while the

company B originates in a European country. The names of the case companies are kept in a secret, what was one of the conditions of conducting the survey. However, it has a big advantage: in this case, the representatives are more willing to share information honestly without any aspiration to make a company look better. All the representatives work in a supply chain management department (or similar to it), as they are the ones who are aware of the sustainability state in SCM the most, and they also see the overall situation within the company and its supply chain. The company A is represented by two employees, while the company B and C are represented just by one person. However, the representative of the company C is from Finland and has an experience of working in Finland, what gives him/her an opportunity to evaluate the situation a little bit more critically, as Finland is one of the most 'green' countries in the world and the sustainability issues have been intensively discussed in Finland for years. Thus, this case provides with an interesting point of view from the academic perspective of this research. Table 2 shows the industries the case companies operate in and the representatives' positions in the case companies.

Table 2. Short description of the case companies and their representatives

	Company A	Company B	Company C
Industry	Retail	Agricultural machinery	Automotive industry
Representatives	Category manager; Supply chain specialist	The head of supply chain management	Export manager
Number of interviews	2	1	1

4.2 Case companies

One of the conditions of using the chosen companies for the case study is to keep them innominate. Thus, there are three different case studies that analyse three different companies operating in Russia: the company A, the company B and the company C. In this sub-chapter, an overview of the given companies is presented to provide readers with a basic knowledge of what the analyzed companies are, what allows to get a deeper understanding of the following empirical results. Where it is possible, it includes the

description of companies' core activities, structure, networks, approximate revenue and size etc.

4.2.1 Case company A

The company A is one of the largest retailers of consumer goods in Russia. Moreover, it is also ranked as one of the largest retailers by market capitalization in the world. The revenue of the company has exceeded \$15 billion in 2017. Currently, the number of employees total in more than 200 000 employees.

Speaking of the size of the company A, it is worth mentioning that the company covers a huge part of Russia, numbering more than 10 000 outlets. It is obvious that such wide chain-stores demand a strong logistics system. The distribution network of the company A consists of more than thirty distribution centers and more than thirty subsidiaries dealing with transport. Moreover, in order to ensure timely delivery to all stores in the network, the company has its own vehicle fleet of a sufficient number of vehicles. Like all big retailers, the company has a plenty of suppliers and a complex structure of supplier network.

There are different types of company's shops, but the major type is a convenience shop. The main product category presented in the chain-stores is food products; it demands a streamlined and well-designed supply network. However, there are a lot of other essential goods presented in the store like household chemicals. Furthermore, the company has its own private-label products, which cover a wide range of product categories and number approximately 1 000.

At the beginning of the appearance, the company had a low loyalty among customers. It was considered as low-quality products shops. Moreover, at the beginning, the company A had even some legal issues related to misbehavior connected with the quality of products. However, after years the company has improved its brand image significantly, having changed its policy regarding the quality of products and having redesigned the appearance of the shops. Nowadays, the company is known as a conscientious employer, providing their employees with fair wages and decent bonus programs. Furthermore, during the last years, the company has participated in community involvement a lot.

4.2.2 Case company B

The company B is one of the leaders in the agricultural machinery industry in Europe. It produces a wide range of agricultural machinery for harvesting in all its manifestations. Apart from its core activity – manufacturing, the company has developed a dense distribution network, what adds accessibility to its products. Moreover, the company provides its customers with strong after-sales services, additional spare parts and supplements for agricultural machinery.

The company B was founded in European Union. Nowadays the company has established production in different parts of the world and has mastered the markets of a big number of countries. However, as the focus of this study is on the state of sustainability in SCM in Russia, the Russian subsidiary of the company B will be taken as an object of analysis (thus, during the following empirical analysis and results ‘the company B’ represents the Russian subsidiary of the company). The revenue of the Russian subsidiary was approximately €500 million in 2017. Currently, there are about 400 employees in Russia.

According to the international website of the company B, it supports some sustainability practices, but do not pay much attention to them. However, when it comes to the Russian website, one hardly can find the information related to the environmentally sustainable behavior of the subsidiary, but the reason for it may be a little interest in this topic among Russian stakeholders. Nevertheless, the company’s emphasis on the social side of sustainability is quite significant. It comes from the fact that the company provides its employees with fair compensation and strong educational programs (according to the company’s website). Moreover, the company presents in the 100 best employers ranking in Russia.

4.2.3 Case company C

The company C operates in the automotive industry in Russia. It is a high-tech innovative company that works as a full cycle enterprise. Activities of the company include design, development of engineering documentation, manufacturing, marketing and shipment of the finished products. The focus area is automotive accessories and original automobile equipment. Having its own manufacturing facilities and utilizing modern technical processes, the company produces the products under different brand names, having about 5 000 different items. It serves as a supplier of some well-known carmakers all over the world. The company’s staff numbers more than 300 employees.

4.3 Empirical results: evidence from the case companies

This chapter introduces the empirical results of the research. The results are based on the data received from the survey of the case companies and their analysis. As it is mentioned above, the survey consists of the three parts: the sustainable supply chain model, the questionnaire related to barriers and drivers for sustainability implementation, and the open questions. The first part of the sub-chapter is focused on the sustainable supply chain model and the open questions, while the focus of the second part is on the questionnaire and, consequently, on the driving and restraining forces of sustainability implementation. The first and the second parts of this sub-chapter introduce the analysis of each case company. Then, synthesis of the results is described in the sub-chapter 4.3.3.

4.3.1 The role of sustainability in SCM in Russian companies

The empirical results about the role of sustainability in SCM in the case companies operating in Russia are based on the analysis of the following parts of the survey: the sustainable supply chain model and the open questions. Both of them are described in sub-chapter 4.1 and the model is presented in Appendix 1. However, in order to get an opportunity to make data more visual and to make it easier for readers to understand this part of the research, it was decided to designate all the sub-sections of the model below before the analysis itself. There are three sections of the model: general (1), environmental (2) and social (3), and they have the following sub-sections:

1. General:
 - 1.1. Sustainability strategy;
 - 1.2. Sustainability reporting;
 - 1.3. Sustainable supplier performance evaluation.
2. Environmental:
 - 2.1. Environmental footprint audit (GHG emissions);
 - 2.2. Electricity usage reduction program;
 - 2.3. Waste reduction program;
 - 2.4. Collaboration with suppliers to commit to environmental sustainability goals;
3. Social:
 - 3.1. Employee development program;
 - 3.2. Diversity plan (gender balance);
 - 3.3. Work-life balance programs;
 - 3.4. Child care and elder care support;

- 3.5. Different levels' employees' involvement into discussions about the company's direction, strategy and progress;
- 3.6. Evaluation of social sustainability of suppliers;
- 3.7. Community involvement and development.

Each sub-section has five levels of maturity/implementation, where "1" is the lowest index and, respectively, "5" is the best possible result. The levels were designed individually for each sub-section and reflect the interest and involvement of the company in the particular sub-section. In order to add visibility to the gathered data, the sustainable supply chain models of all the case companies are presented in the form of radar chart.

Company A

There are two representatives of the company A who have participated in the survey: a category manager and a supply chain specialist. The category manager works in a wholesale department, which has been opened recently, but before he had been working as a purchasing manager in the same company for several years. Thus, he has a rich knowledge of a purchasing system and supply chain of the company. The supply chain specialist also perfectly suits the research, as her direct work is to support the reliability of the company's supply chain and to ensure its performance. The both of representatives work in the headquarters of the company A, what allows them to consider the topic of SSCM with a wider angle of view.

The sustainable supply chain model assessment of both representatives is presented in Figure 5. The answers of the category manager and the supply chain specialist are almost identical, with some insignificant discrepancy. As one can see from the radar chart below, the overall performance of the company A in sustainability is really poor. Figure 5 illustrates good levels of maturity/implementation only in two items, which are presented in the social sustainability section: employee development program and community involvement and development.

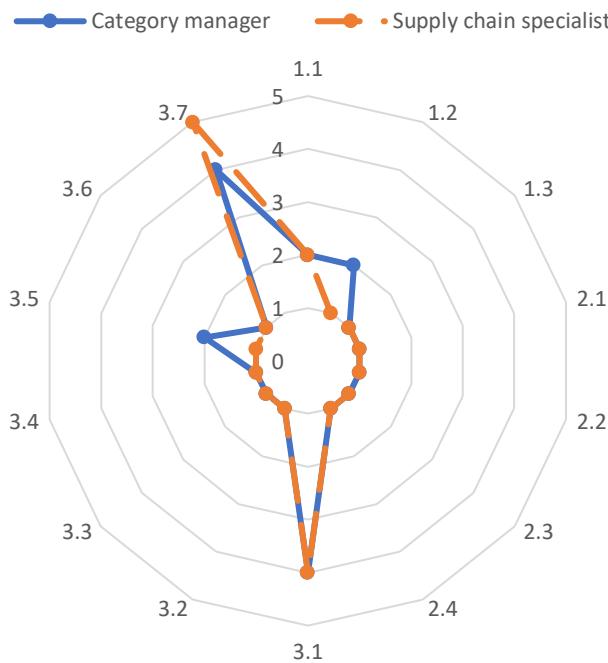


Figure 5. The sustainable supply chain model of the company A

The general section of the sustainable supply chain model reveals that the company A pays almost no attention to sustainability. Both, the category manager and the supply chain specialist, evaluate the sustainability strategy of the company as being at the second level of maturity/implementation, which corresponds to the value "somehow known". Thus, it is hardly surprising that, according to the supply chain specialist, the company does not have sustainability reporting at all. However, the category manager claims that it is internally documented in some departments. It can be explained by the fact that this representative has much more experience of working in the company A and has relationships with a wider range of employees. Thereby, probably, there can be social sustainability reporting in some departments directly related, for example, to employees, like HR department, which may make reports related to employee development programs. Moreover, despite the fact that, as one of the largest retailers in Russia (and in the world), the company A has a tremendous network of suppliers, it does not conduct any supplier evaluation related to suppliers' sustainable performance.

Speaking of environmental sustainability, the both representatives agree that there are no programs aiming to reduce a negative impact of the company on environmental. Thus, despite the fact that retail activities contribute a lot in greenhouse gases (GHG) emissions and waste generation, the company A does not conduct environmental footprint auditon

and waste reduction program, which is even out of the company's discussion. The same can be also said about electricity usage: retail implies power consumption and the bigger retailer is, the more electricity it needs; however, being one of the biggest retailers in Russia, what means significant electricity usage, the company does not have any electricity usage reduction program and, currently, does not even think about it. As it was mentioned above, the company has no evaluation of suppliers' sustainable performance. Thus, there is no collaboration with suppliers to commit to environmental sustainability goals as well.

Despite the fact that the best results are shown in the section devoted to social sustainability, the company A still performs quiet poorly in this direction. There are no work-life balance programs, no diversity plan related to gender balance, and no child care and elder care support. Moreover, these social sustainability practices are out of the company's discussions, what means that, if the company eventually implements them, probably, it will happen in the distant future. Besides, as for different levels' employees' involvement into discussions about the company's direction, strategy and progress, the supply chain specialist claims that there is no such a practice in the company, while the category manager evaluates it as "low and unsystematic". The possible explanation of the difference in the evaluations of this item can be the fact that the category manager has been working in the company A for a longer period of time, than the supply chain specialist. However, the both, the category manager and the supply chain specialist, evaluate an employee development program as being at the fourth level of maturity/implementation, which indicates "unsystematically applied to the majority of employees". Thus, the company has already succeeded in employee development, but so far has not created a clear system, which should determine which employee has to participate in what program with what frequency. Another social sustainability practice the company A has succeeded in is community involvement and development. The category manager evaluates it being at the fourth level of maturity/implementation and the supply chain specialist – the fifth level (the best possible results). Indeed, it is well-known that during the last years, the company A participates in community involvement a lot, when it comes to particular cities of Russia.

The answers to the open questions confirm the results received from the sustainable supply chain model. The company's representatives claim that, speaking of not only the company A but also the industry in general, there is no culture of social and environmental sustainability development among departments, which are involved in supply chain management, in the modern Russian market. They also add that there is one goal that may drive companies towards sustainability implementation – to enhance a brand image. In

addition, when it comes specifically to the company A, the representatives say that the focus is on the social aspects of sustainability, what can also be seen from the model above. The category manager highlights the following activities in this area: corporate sports tournaments, discounts on the rest in sanatoriums for employees, citywide sports events.

All in all, the company A shows the really poor results in sustainability implementation in SCM. First of all, it does not have the well-defined sustainability strategy and organized sustainability reporting. Moreover, the company does not conduct sustainable supplier performance evaluation, which is very important in terms of SSCM. When it comes to the environmental sustainability, despite the fact that the company is one of the biggest retailers in Russia, one can say that the company shows no interest in this field at all. Furthermore, the company also performs poorly in social sustainability implementation, conducting almost no social programs for its employees, except employee development program. However, the company does succeed in community involvement and development. Nevertheless, the company's representatives note that the only driver for sustainability implementation is a positive brand image.

Company B

The chosen representative of the company B is the head of supply chain management. Being the head of the department, he has a holistic understanding of the company's supply chain and a progress of sustainability implementation in this field. Moreover, he has direct connections with other departments, what allows to have a wider knowledge of sustainability along the company. The company B is the only one in this research that is a subsidiary of the company that originally is not from Russia, but from Europe. This is quite interesting from the academic point of view, how the subsidiary of the foreign company succeeds in the field of sustainability, which is not good developed in Russia so far.

The sustainable supply chain model of the company B is illustrated in Figure 6. It shows that the level of the sustainability implementation in SCM is quite high. One can see from Figure 6 that the best results are achieved in environmental sustainability, while the social sustainability implementation is mostly in the development phase.

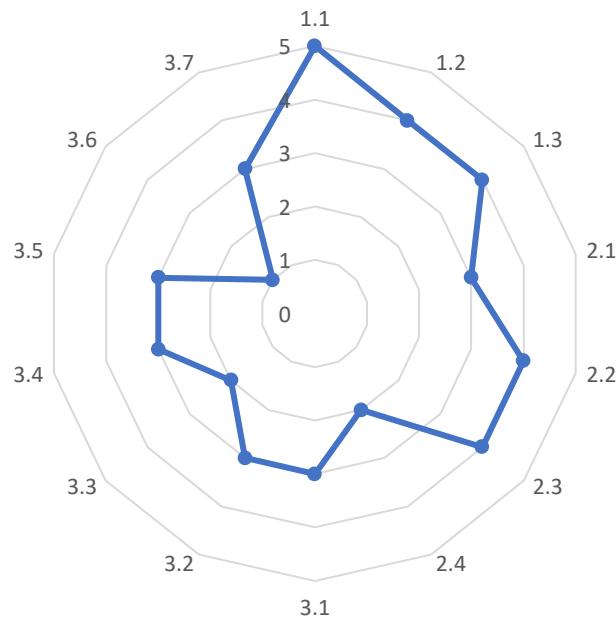


Figure 6. The sustainable supply chain model of the company B

Speaking of the sustainability strategy as a whole, it is worth mentioning that the strategy is well-defined by the company. All employees know the company's sustainability strategy and actively participate. The existence of the well-developed sustainability strategy and its clarity for the company's staff are confirmed by the following findings in the other section of the model. Furthermore, the head of supply chain management of the company B has evaluated sustainability reporting as being at the fourth level of maturity/implementation, which corresponds to the value "internally documented within the whole company and shared with suppliers". It is essential from the point of sustainability implementation, because it ensures transparency within the company, showing to the employees and suppliers the role of sustainability. However, so far, the sustainability reporting is not well-linked to the company's strategy. As the company B is concerned with sustainable issues not only within the boundaries of the company but it also realizes that the behavior of its suppliers directly affects the company's sustainability performance, it evaluates the sustainable performance of suppliers. Thus, such factors as ethical behavior play a significant role in a vendor selection. However, currently, the evaluation is applied only to key suppliers.

As one can see from the answers in the section of environmental sustainability, the company B puts a notable emphasize on this area. Operating in the agricultural machinery industry implies significant GHG emissions, electricity usage and waste generation, as it

involves manufacturing activities like metalworking, welding etc. According to the company's representative, an electricity usage reduction program and a waste reduction program have been already developed and, currently, they are at the implementation phase. As for GHG emissions, the company conducts environmental footprint audit, what is important as the first step towards sustainability practices regarding GHG emissions minimization. However, so far, the environmental footprint audit is conducted only within the company, what is not enough to get a full picture of a negative environmental impact of the company. In order to get a holistic view of this issue, the audit should be conducted along the whole supply chain or, at least, first-tier suppliers should be taken into consideration. Moreover, the results of the environmental footprint audit would be more reliable and accurate, if there was a verification by a third party. Another item of the environmental section in the model is a collaboration with suppliers to commit to environmental sustainability goals. Currently, the company only develops such kind of connections with its suppliers. Nevertheless, the company B has a big potential in this issue, as it already conducts the evaluation of the key suppliers' sustainable performance, what should mean the willingness of key suppliers to commit to environmental sustainability goals.

Despite the fact that in the section on social sustainability the company B shows the poorest results in comparison with those in other sections, it still demonstrates a sound development in social sustainability. The company has launched an employee development program, however, currently, it is applied only to the limited number of employees. A diversity plan (gender balance) and a program of child care and elder care support have already passed the phase of discussion and now they are in the development phase. However, when it comes to work-life balance program, the representative points out that there are only informal discussions regarding this topic and it is difficult to say when the company decides to develop this program. As for different levels' employees' involvement into discussions about the company's direction, strategy and progress, the company has succeeded in this practice to some extent but there is a big field for development: it is evaluated as "middle and unsystematic". Currently, the company B does not participate in community involvement and development, which are not seemed as essential as practices mentioned above, but the plan of community involvement is at the development phase. In addition, despite the fact that the company applies the sustainable supplier performance evaluation to the key suppliers, there is no evaluation of the social sustainability of suppliers at all.

Thus, one can say that, conducting the evaluation, the company focuses only on environmental sustainability.

The open questions in the survey have revealed the focuses the company B has in SSCM. The findings of the sustainable supply chain model shown above point out that environmental aspects are seemed as more important for the company; the answers of the head of supply chain management confirm this. He claims that "when it comes to a manufacturing company, of course, one has to admit, that an environmental direction is more important at least because of its importance for safety". However, the representative also emphasizes that both directions (environmental and social) in sustainability should be taken into consideration, saying that "the main focus is made on environmental factors but also the company has to think about gender balance; the goals in this field are to eliminate any kind of "gender borders" and to give equal chances for excellent performance to everyone". In addition, as for the future directions of SSCM development in the company B, the head of supply chain management highlights the following: safety, quality, efficiency increasing and productivity. Many of them are primarily related to economic aspects of sustainability, but in order to achieve holistically sustainable results in these fields, the company B is going to utilize environmentally and social sustainability practices (for example, achieving a better productivity through a waste reduction program and employee development program implementation).

All in all, the company B performs at a high level in sustainability in SCM. Despite the fact that the overall level of sustainability implementation is low in Russia, the company shows an awareness of the modern sustainability practices and demonstrates a strong intention in implementing them. Apparently, it can be explained by the fact that the company B is a subsidiary of the company from the EU and all directives related to sustainability issues come from the head company, which sends the practical ways of sustainability implementation. Being a manufacturing company, the company B mostly focuses on the environmental side of sustainability. However, one can see from the model above that it also pays a notable attention to social factors as well, developing the diversity plan (gender balance), the program of child care and elder care support, the community involvement plan and already conducting the employee development program.

Company C

An export manager has been chosen as a representative of the company C in this research, as she has a comprehensive knowledge of the company's distribution network, dealing with foreign buyers, who are the target customers of the company, and coordinating international shipments of the company's products. Moreover, being at the top level of management hierarchy in the company and having direct contacts with other departments and a Chief Executive Officer, the export manager has also a deep understanding of the state of the company and its supply chain management in general. In addition, the representative of the company C is from Finland, where sustainability is a highly important issue in a business area as well as in everyday life; and also, the field of her studies is sustainability. These facts add academic value to the given answers.

The sustainable supply chain model of the company C is illustrated in Figure 7. One can see from the radar chart that the overall company's emphasis on sustainability is really low. The chart shows some good levels of maturity/implementation just in few items, namely, in the social section: employee development program and diversity plan (gender balance).

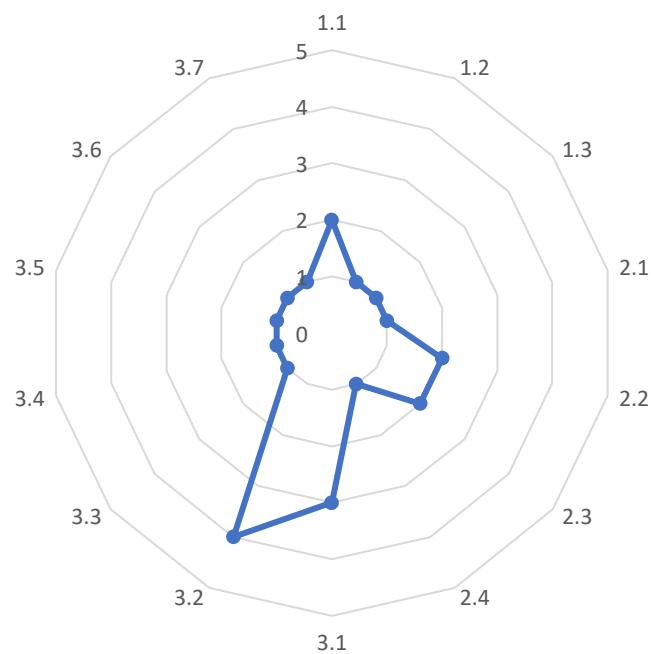


Figure 7. The sustainable supply chain model of the company C

According to the export manager, when it comes to the general level of sustainability practices, the company C shows a really poor progress. The company does not conduct

sustainability reporting, even internally in some departments. Moreover, there is no supplier evaluation regarding sustainable performance, which is seemed as one of the basic sustainability practices; and an implementation of this practice is even out of company's discussions. Thus, the only criterion of a vendor selection is financial benefits and the quality of resources, no matter whether a supplier conducts unethical practices, causing a negative impact on community or environment. Therefore, there is no surprise that the sustainability strategy is evaluated being at the second level of maturity/implementation, which corresponds to the value "somehow known". It means that only some small steps towards developing the sustainability strategy are taken and that even the board of the company does not have a sound understanding what it is and the necessity of it. However, it also shows that at least some awareness of the topic exists, what may lead to well-developed volume sustainability strategy linked to the general strategy of the company in the future.

The next section of the sustainable supply chain model presented in the survey is environmental aspects. Despite the fact that metalworking, which is one of the core activities of the company C, is an industry where greenhouse gases (GHG) are generated a lot, the company do not conduct any environmental footprint (GHG emissions) audition. However, the audition is a starting point for the majority of programs toward minimization of the negative environmental footprint. Nevertheless, the company shows some progress in growing awareness of other sides of environmental sustainability: electricity usage reduction and waste reduction, which are also a significant issue in the metalworking industry. Having its own manufacturing facilities, the company has started informal discussions about potential programs of electricity usage reduction and waste reduction but has not started the development of such programs yet. Apparently, cost reduction is the biggest motive regarding this issue. In addition, it is revealed that the company has no collaboration with suppliers to commit to environmental sustainability goals, what actually follows from the analysis of the company's involvement in the general level of sustainability.

The best results are shown in the section devoted to social sustainability, but only in two points: employee development program and diversity plan (gender balance), while other sustainability practices are evaluated being only at the first level of maturity/implementation, what in the given model means complete absence. Speaking of the employee development program, it is worth mentioning that it is evaluated as "applied only to the limited number of employees", what is a quite good result, however, there is a big field for development in this direction. The company may extend its employee development program toward a bigger number of employees and make this practice systematical. According to the export

manager, the company significantly succeed in an issue of diversity regarding gender balance. The diversity plan (gender balance) has been successfully developed, and now it is in the implementation phase. However, there are no work-life balance programs and child care and elder care support in the company C. Moreover, there is no practice of different levels' employees' involvement into discussions about the company's direction, strategy and progress; this practice could contribute significantly to the company's growth, innovation development and favorable atmosphere in the team.

The answers given by the export manager on the open questions give a more comprehensive view on the current situation of and future directions in sustainability area of the company. Answering on the question about what priority sustainability has in the company's supply chain management, the representative of the company C claims that "it does not have any priority and the only change can come from it being demanded by a significant client". That is, it is clear that the company is not interested in the implementation of sustainability practices, what can be also seen from the sustainable supply chain model. Moreover, the export manager says that they "are only thinking towards the direction of the EU and US regulations on environmental certifications; they will be demanded from us in the future if we wish to remain as suppliers". In this way, the only true motivator of sustainability implementation is requirements from buyers, who are mostly situated abroad. Moreover, the environmental aspects seem to be a more important direction in sustainability. The representative mentions ISO 14001 certificate as a main aim in the future. According to ISO (2018), the standards of this family "focus on specific approaches such as audits, communications, labelling and life cycle analysis, as well as environmental challenges such as climate change". However, as one can see from the model above, the environmental sustainability programs, which seem to be in the company's field of interest, are only at the discussion phase.

All in all, the company C shows a little interest and poor results in sustainability implementation in SCM. It does not conduct any sustainability evaluation of its suppliers, what has a significant impact on the sustainability of the whole supply chain of the company. Moreover, there is no collaboration with suppliers towards achievement common sustainability goals. Speaking of environmental sustainability, it is worth emphasizing that the main (and, probably, the only) driver of its implementation is a pressure from the buyers' side; in the future the company is going to adopt ISO 14001 certificate to stay competitive at the US and EU markets. However, when it comes to social sustainability, one can say that company has succeeded in this field to some extent, implementing the employee

development program and the diversity plan (gender balance). Nevertheless, these two programs are not enough to call the company at least socially sustainable.

4.3.2 Motives and barriers for SSCM implementation in Russia

The empirical results about the motives and barriers for sustainability implementation in SCM in the case companies are based on the analysis of the questionnaire related to this topic. The questionnaire is a part of the survey and it is described in sub-chapter 4.1 and presented in Table 1. Below the motives and barriers noted by the representatives of each company are presented separately and then the overall results are described. In order to visualize the findings, figures (for each company) and table (for overall results) are used.

Company A

Although there are two representatives of the company A in the research, they both note the same barriers and motives for sustainability implementation in SCM. Thus, one figure illustrates the answers of both, the category manager and the supply chain specialist. The force-field, where the main driving and restraining forces for SSCM are shown, is present in Figure 8.

As one can see from Figure 8, the company A has a quite weak level of motivation; only four factors are chosen as a driving force and almost all of them indicate the lowest level of concernment about sustainability. One of the drivers noted by the representatives of the company A is regulation compliance. Actually, regulation compliance is supposed to be a driving force for all companies, as environmental legislation is usually connected with some significant penalties and fines. Thus, in order not to lose their money and not to break laws, companies usually apply some environmental sustainability practices to the extent a government requires. However, in this case, it is a quite weak motivation factor, when it comes to Russian companies, as legislation related to the business responsibility connected with environmental and social issues is not clearly defined and not rigorous in Russia in comparison with those in the EU countries. A positive brand image is another driver noted by the representatives. Speaking of this driver, it is worth highlighting that in the open question the representatives mention that enhancing a brand image is probably the only factor that can drive the company sustainability implementation. Another driver, according to the category manager and the supply chain specialist, is diminishing energy consumption, what is quite controversial, as it is found from the sustainable supply chain

model that the electricity usage reduction program is even out of discussion of the company A. In addition, the representatives mark stakeholder attraction as a driving force for SSCM.

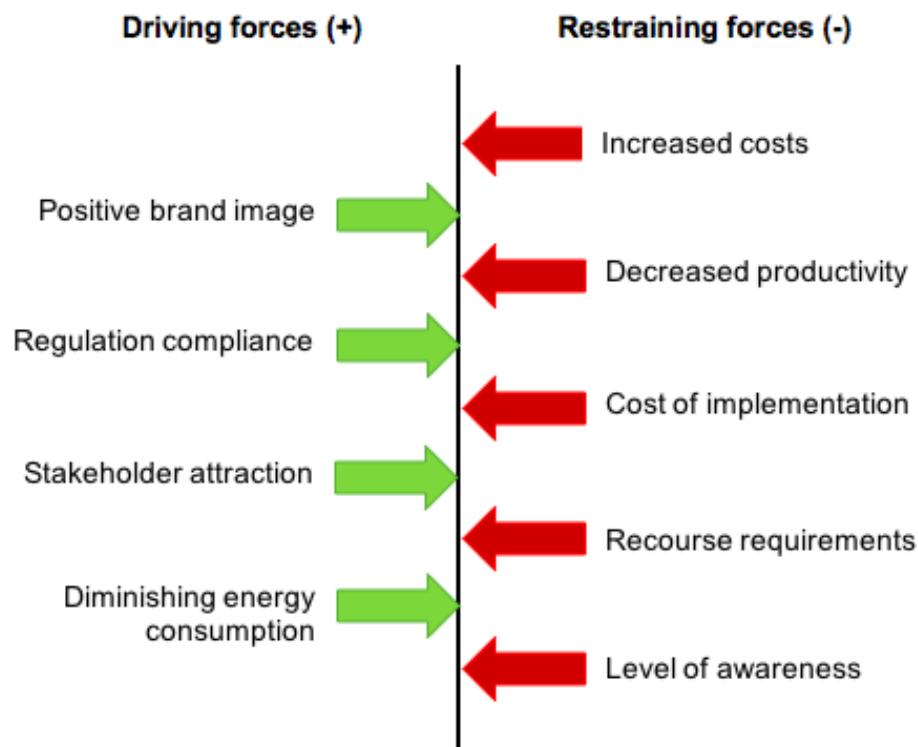


Figure 8. Force-field analysis of sustainability implementation in SCM (company A)

Since the questionnaire has such a structure that implies to agree or disagree whether the particular factor is a driver or barrier for sustainability implementation in SCM in the company, it is worth mentioning the factors what are evaluated as not being a driver or barrier, because it also determines the state of an attitude towards sustainability issues inside the company. Thus, the company A does not consider the implementation of sustainability as an opportunity for costs reduction and an increase of productivity. However, some sustainability practices have proven their effectiveness in the retail industry, where the company A operates. Moreover, the representatives disagree that sustainability implementation may reinforce a competitive advantage of the company. This can be explained by different facts, but one of the main ones is that sustainability still plays an insignificant role in general in Russia. Besides, this situation may be an explanation for the fact that improved relationship (with suppliers) is also marked as not being a motive force for SSCM, as the majority of the company's suppliers are from Russia and they also do not pay a lot of attention to sustainability.

When it comes to barriers for sustainability implementation, one can see that there are a lot of them and they exceed the number of drivers. The majority of them is connected with financial and resource constraints: a cost of implementation, resource requirements and increased costs, which are seemed as quite common barriers, as a plenty of sustainability practices imply huge investments. Moreover, the company's representatives mark decreased productivity as a restraining force, what is common for Russia, where sustainability is often considered as something that not only requires additional investments but also may be an obstacle for effective flow of processes. Another barrier is a level of awareness, what is not surprising at all. The company A does not have the well-defined sustainability strategy and, as it can be seen from the sustainable supply chain model, sustainability does not have any priority in the company. Moreover, the topic of sustainability still has a low level of interest among people in Russia. Thus, there are no good sources for a management team of the company to get information about sustainability issues from.

All in all, one can say that the sustainability implementation is seemed as a difficult process for the company A. The force-field analysis of sustainability implementation in SCM reveals that the company has more restraining forces than driving ones, despite the fact that the pool of drivers (12), from which the representatives were asked to choose the suitable for their company, is much bigger than that of barriers (7) in the original questionnaire devoted to this topic. Moreover, all the motivators, except diminishing energy consumption, are not connected with the sustainability practices themselves, but with external factors, like legislation and brand perception by customers and other stakeholders. Besides, the barriers reveal that in the company A the sustainability implementation is seemed as decreasing productivity. The sustainability practices are also associated with huge investments, what plays a role of a significant barrier, as the board and employees have a low understanding, why they should spend resources on this, due to the low level of awareness.

Company B

From the sub-chapter above, it is known that the company B has significantly succeeded in the sustainability implementation in SCM, having developed the sustainability strategy, sharing the sustainability reporting with suppliers and conducting the sustainable supplier performance evaluation. The performance in the sustainability field is directly connected with the company's understanding of what motivates and hinders the sustainability implementation. The main drivers and barriers for SSCM are presented in Figure 9.

As one can see from Figure 9, the company's representative marks a big number of factors as driving forces. First of all, he marks a positive brand image, as the brand image is an integral part of the company's value. Since the group, which the company B belongs to, operates not only in Russia but in the whole Europe Union, where the sustainability issues are essential, the sustainable behavior is important for building the positive brand image for all the companies in the group as well as for the group in general. In its turn, the positive brand image supports other driving forces like employee attraction and stakeholder attraction. Another driver for the sustainability implementation is a waste reduction. As it can be seen from the sustainable supply chain model described above, currently the company B implements the waste reduction program. Moreover, the representative notes that improved relationship (with supplier) drives the company towards the sustainability, what is indeed important, since the company has started developing the collaboration with suppliers to commit to environmental sustainability goals. Being a subsidiary of the EU company, the company B has an understanding that unsustainable supply chain may lead to some risks connected with social and environmental issues. Thus, the sustainability implementation is seemed as supporting a risk mitigation. Besides, the representative marks increased innovation and competitive advantage as driving forces as well. Interestingly enough, that regulation compliance is marked as "difficult to say". It can be explained by the fact that the company B has notable results in the sustainability field and, as the regulation related to the business responsibility connected with environmental and social issues is quite weak in Russia, performs much better than the regulations require. Thus, despite the fact that the legislation definitely can be a driving force for the sustainability implementation, the company B do not need to pay much attention to it.

Speaking of barriers for the sustainability implementation in SCM, it is worth mentioning that the company's representative marks just a few ones. Resource requirements and increased costs are among them; they are seemed as common restraining forces, as a lot of sustainability practices imply significant investments. Thus, despite the fact that the company B shows an interest and understanding of the need of the sustainability implementation, it has some financial constraints and should balance between its financial and sustainable performance. Moreover, the representative marks decreased productivity as a barrier, while marking increased productivity as a driver. Such a situation may be explained by the fact that different sustainability practices have a different contribution to productivity of the company. Furthermore, sustainability practices often work in the following way: they decrease productivity in the short-term period during the implementation phase

and increase it in the long-term period. In addition, the representative disagrees that the level of awareness plays a role of a barrier for SSCM, as the company's employees have a high level of awareness, when it comes to sustainability, and all of them know the company's sustainability strategy.

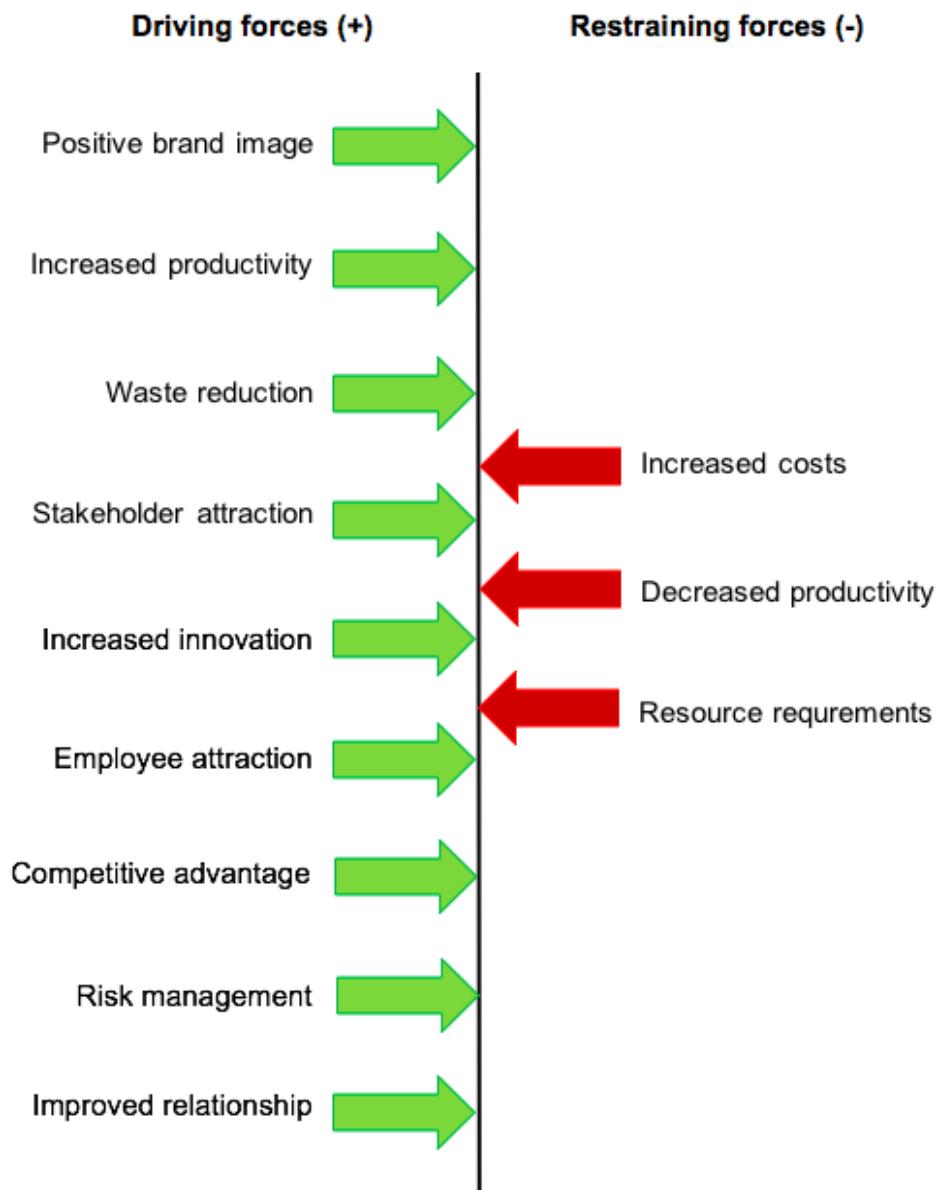


Figure 9. Force-field analysis of sustainability implementation in SCM (company B)

All in all, one can see that the company B has a strong motivation towards the sustainability implementation in SCM. It has much more motivation forces than restraining ones. Thus, the company sees the sustainability more as an opportunity than an aggravating factor. Moreover, the majority of the barriers is connected with financial constraints, which are

natural for any kind of big projects. As for the drivers, the company's representative opts for the nine ones out of twelve, what shows that the company B has a comprehensive understanding of the value the sustainable supply chain can bring.

Company C

As it is revealed from the analysis of the sustainable supply chain model of the company C and the open answers of the company's representative, it has a poor priority in sustainability implementation and the main driver towards sustainability is requirements from the buyers, who are mostly from the EU and the USA. Below other drivers and also barriers are described and analyzed. The force-field, where the main driving and restraining forces for SSCM are shown, is presented in Figure 10.

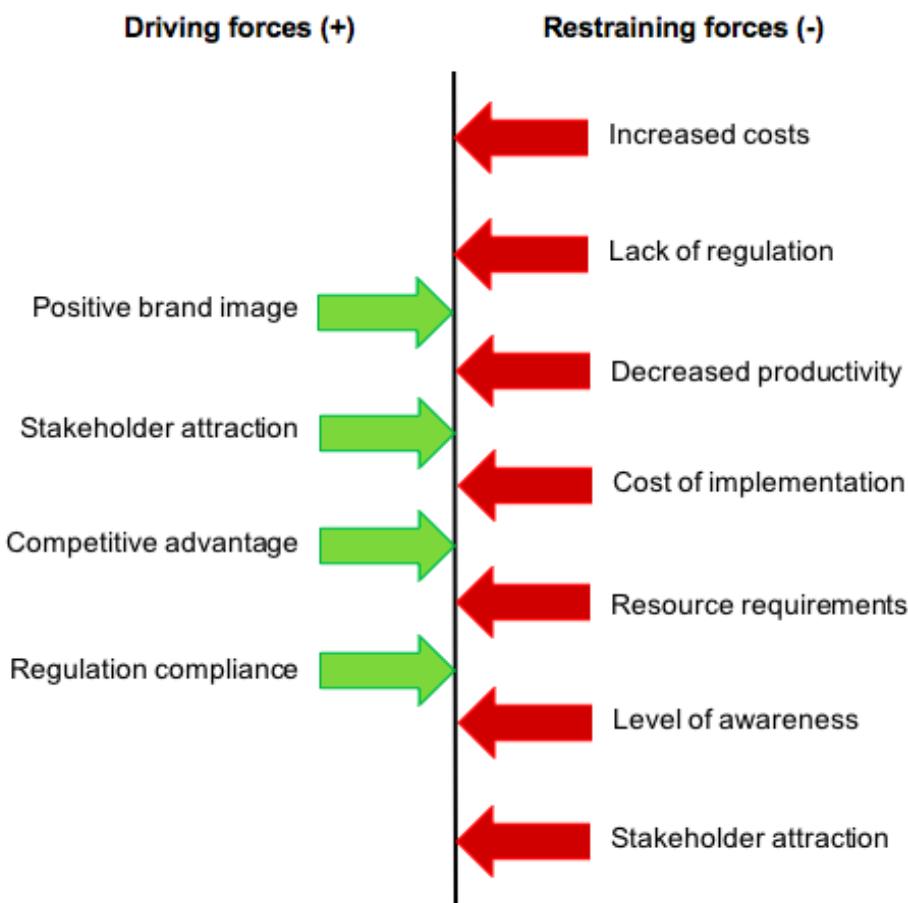


Figure 10. Force-field analysis of sustainability implementation in SCM (company C)

First of all, the representative claims that the sustainability practices may enhance the image of the company. Moreover, the sustainability implementation in the company's supply

chain seems as a strong addition to competitive advantage. As the majority of the company's buyers is from the EU and the USA, where being sustainable plays a huge role in the market relationships, it is essential for the company C behave sustainably to stay competitive on these markets. Moreover, the company's representative marks stakeholder attraction as a driving force for SSCM. However, at the same time, she defines it as a restraining factor. The explanation for it can be the fact that, despite the having stakeholders from the EU and the USA, the company C also has a big number of stakeholders in Russia, where the field of sustainability is not well-developed. Thus, while some stakeholders see the sustainability as a company's competitive advantage, others may consider it as a waste of money, concentrating only on the financial performance of the company. In addition, regulation compliance plays a role of a significant driver for the sustainability implementation. However, having an experience of working in Finland, the representative highlights that there is a lack of regulation in Russia, what, in this case, is a barrier for notable improvements in the field of sustainability.

When it comes to barriers for SSCM, the company's representative selects all the seven factors given in the questionnaire. Of course, one part of factors is connected with the financial side of the sustainability implementation. The company does not consider the sustainability practices as a way of cost reduction, but it fully understands that they require a significant amount of resources. Moreover, an opportunity of decreased productivity also restrains the company from the sustainability implementation. Apparently, the sustainability practices demanded by the EU and US buyers require a significant reconstruction and redesigning of the existed manufacturing processes, what may lead to decreased productivity. In addition, the representative notes that, despite the fact the company works with companies from the EU and USA, there is a low level of awareness in the company, what is a significant barrier for SSCM, as a board and employees just do not have a clear understanding of the need of the sustainability implementation.

All in all, one can see that the company C has a quite weak motivation for the sustainability implementation in SCM (only four out of twelve drivers are chosen). Moreover, it has a wide restraining field, which significantly exceeds the motivation one. This situation is a logical explanation of the poor performance revealed from the analysis of the sustainable supply chain model of the company. The strongest driving forces come from the EU and US buyers, who demand from the company to have the sustainable supply chain to stay competitive in these markets. Moreover, having stakeholders in different countries, including Russia, the company C is in a difficult situation, as some of their stakeholders want the company to

enhance its supply chain from the point of sustainability, while others pay attention only to financial results, not considering the social and environmental sustainability as a needed field for investments.

4.3.3 Synthesis of the results

The previous sub-chapters introduce the analysis of each case company concerning to the role of sustainability in SCM (sub-chapter 4.3.1) and motives and barriers for SSCM implementation (sub-chapter 4.3.2). These results are based on the data received from the survey of the case companies. After analysis of each case company, the synthesis of the results is made in this sub-chapter.

The role of sustainability in SCM in Russian companies

In order to sum up the findings regarding the role of sustainability in SCM in a visual way, it is decided to combine the sustainable supply chain models of the three companies in one table (see Table 3). Table 3 illustrates the levels of maturity/implementation of each given sustainability practice in all the case companies: yellow – the company A, green – the company B, blue – the company C.

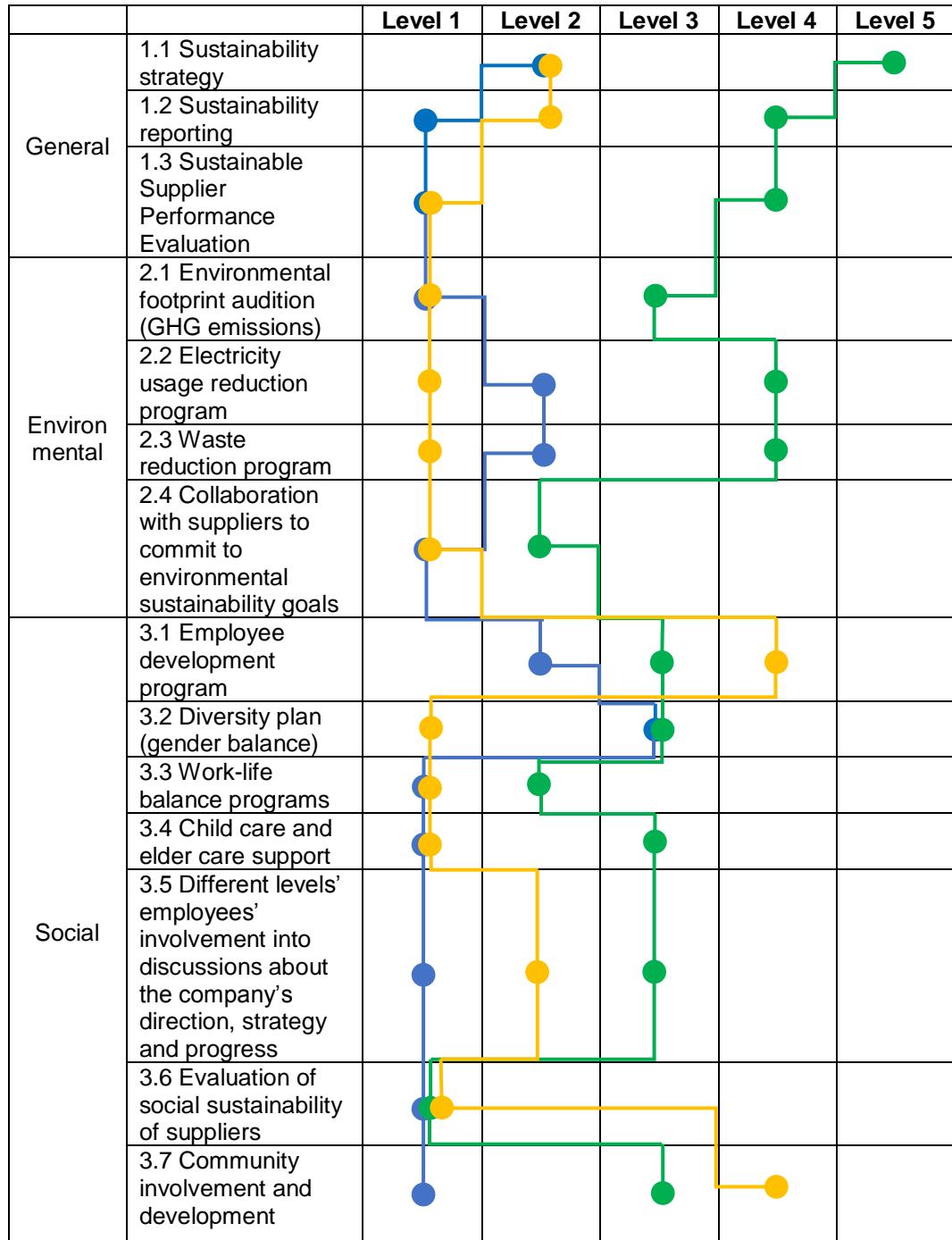
As one can see from the table, only the company B has the well-defined sustainability strategy, while the companies A and C do not clearly define their sustainability strategies and do not spread them along the companies. Since a sustainability strategy is a basis for the sustainable behavior of a company, the presence/absence of it clearly shows what priority sustainability has in SCM in a company. The sustainability strategy often determines sustainability reporting and sustainable supplier performance evaluation, which also reflect an involvement in sustainability issues by a company. The analysis of the case companies confirms this statement: only the company B is involved in these practices.

When it comes to environmental sustainability, the representatives of the company B and C claim that it is their main direction in sustainability, as the both companies are manufacturers. However, only the company B demonstrates notable results in this field, implementing the electricity usage reduction program and the waste reduction program and conducting the environmental footprint audit, although only within the company itself. Nevertheless, the company C has already started discussing the potential improvement in the field of power consumption and waste generation, what seems as a good first step towards environmental sustainability. As for the company A, one can see from Table 3 that

it shows zero interest in this field and there are even no discussions of such topics in the company.

Table 3. The sustainable supply chain model of the case companies

 Company A Company B Company C



The last section of the model is social sustainability. In this section, the company B's involvement is evaluated being at the third level of maturity/implementation on the average; it covers the biggest number of practices than the other companies do in this section. Thus, concentrating on environmental aspects of sustainability, it still takes into consideration the social side. Having social sustainability as a priority direction, the company A shows very good results in the employee development program and community involvement and development, outperforming other analyzed companies. However, it performs poorly, when it comes to the other items of this section. The worst results in social sustainability are shown by the company C. The only two practices it is interested in are the employee development program and the diversity plan (gender balance), and the both of them are only in the development phase.

All in all, the company B shows the best results in sustainability implementation in SCM among the case companies. Interestingly enough, that this company is the only one which is a subsidiary of the head company from the EU. Thus, these two facts may lead to the following statement: the topic of sustainability is much less developed in Russia than in countries of the EU. That is, as the head company of the company B is from the EU and they have direct relationships, it adopts the policy related to sustainability of the head company, while the companies A and C are originally from Russia and their poor performance in sustainability implementation reflect the overall saturation of sustainability in the country.

Motives and barriers for SSCM implementation in Russia

There is a direct correlation between the company's sustainable performance and the factors that motivate and restrain the company to implement the sustainability into its supply chain. Thus, having a wide motivation field and just a few barriers, the company B shows the best results in the sustainability implementation and highlights the priority of the sustainability for the company. Respectively, the companies A and C, which have a really poor motivation, while having a significant number of restraining forces, do not show the concernment in sustainability issues and demonstrate a low level of development in this field. In order to analyze what driving and restarting forces are predominant ones for the sustainability implementation in SCM, it is decided to present all forces marked by the representatives of the case companies in Figure 11, where the length of an arrow reflects how many case companies agree that the particular factor has an influence on the decision-making process related to the sustainability implementation.

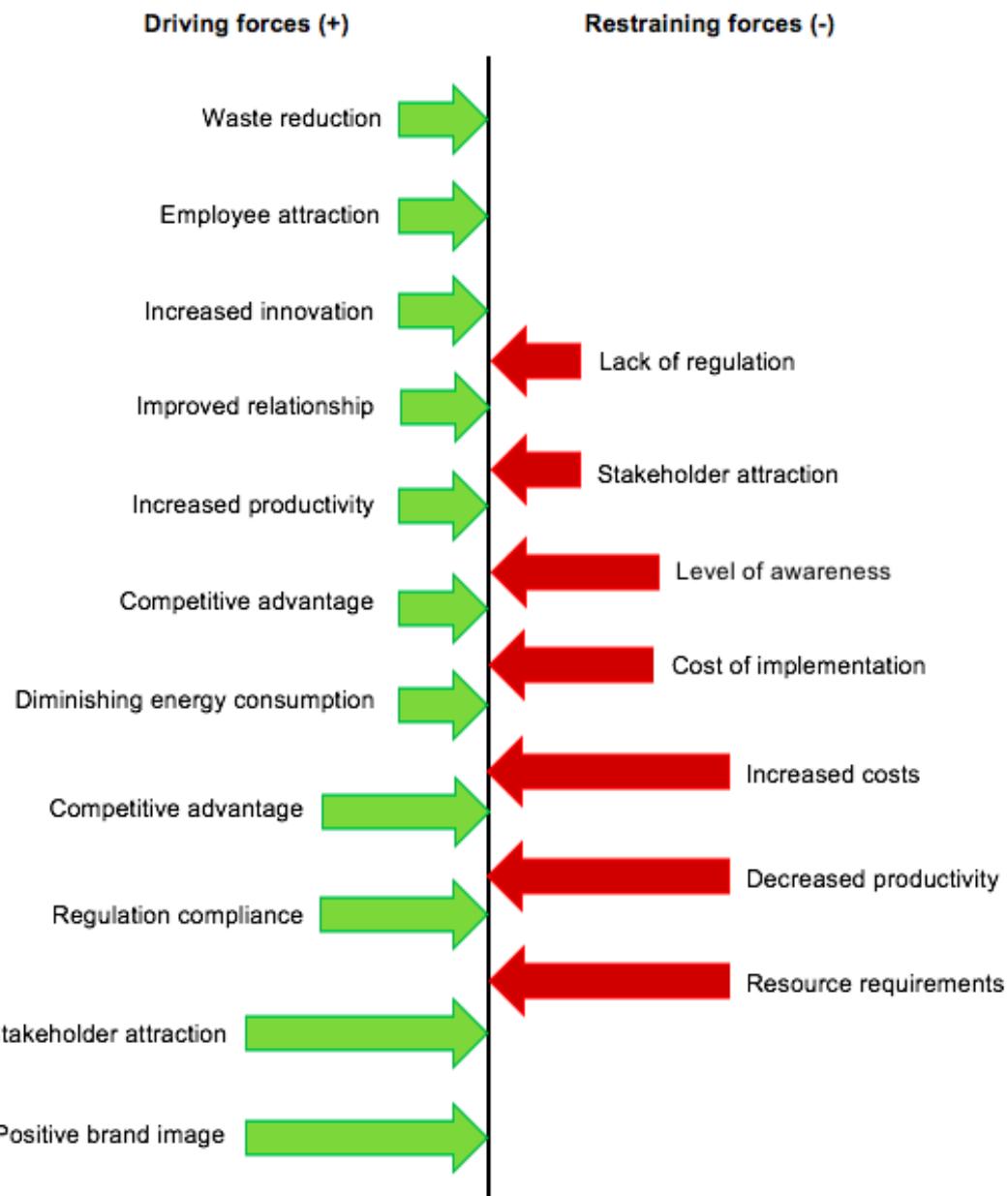


Figure 11. Force-field analysis of sustainability implementation in SCM (overall)

The representatives of all the case companies agree that a positive brand image and a stakeholder attraction motivate their companies to adopt the sustainability practices. Actually, these two factors are connected, as a good reputation of a company leads to more attractiveness to stakeholders. Besides, the two companies mark regulation compliance as a driving force, what is obvious, as the legislation is a basic motivator for a lot of environmental sustainability practices. However, the representative of the company C notes

that there is a lack of regulation in Russia, what does not contribute to the creation of sustainable supply chain. Enhancing a competitive advantage is seemed as a common driving force for SSCM as well. In addition, none of the representative marks that the sustainability implementation facilitates reduced costs. This is essential for the Russian market, since the majority of customers in Russia does not show a big willingness to pay more for sustainable products. In addition, despite the fact that all the case companies operate in the industries that imply a significant waste generation, the representatives of the two companies claim that waste reduction is not a motivation for the sustainability implementation. Apparently, this indicates a low level of awareness in this topic.

When it comes to barriers, one can say that there are fewer distinctions and the findings are more generalized. First of all, the all companies agree that the sustainability implementation requires additional resources and leads to increased cost, what, of course, is evaluated as a barrier. Moreover, as it is said above, the majority of people in Russia does not often opt for sustainable products, since they usually cost more. Thus, an implementation of a sustainability practice just may not pay off. However, the most buyers of the company C are from the EU and USA, where it is not supposed to be such a big issue, how it is in Russia. Besides, the representatives of all the companies mark decreased productivity as a restraining force. Indeed, some sustainability practices may lead to decreased productivity due to the complexity of sustainability practices adoption; however, a lot of them usually increase productivity in a long-term period. In addition, since the level of awareness related to the majority of sustainability issues is quite low in Russia, it can be a significant obstacle for even starting to discuss the potential sustainability implementation in SCM. However, this is not a restraining factor for the company B because, as it is a subsidiary of the EU head company, the level of awareness is high among the board and employees of the company.

5 Conclusion

This is a final chapter of the research. It summarizes the key results of the research, combining the empirical findings from the previous chapter and the theoretical findings. Thus, the chapter describes connections between the theoretical and empirical parts and brings the empirical findings of the Russian case companies to a more general level (a level of the country). The clear answers to the research questions are given in the first part of the chapter. The second part introduces the limitations of the research and suggestions for further research.

5.1 Summary of findings

The aim of this research was to get a holistic understanding of the current situation of the sustainability implementation in SCM in Russia, analysing the Russian case company. Moreover, it was important to understand what driving and restraining forces affect this process in Russia the most. The focus of the research is on social and environmental sustainability. In order to achieve the research goals, the following research questions were developed:

Main research question:

What kind of role does sustainability play in supply chain management in Russian companies?

Sub-questions:

What directions of SSCM do Russian companies focus on: social or environmental sustainability?

What kinds of main drivers and barriers for sustainability principles implementation in SCM exist in Russia?

In order to get a wider view on these issues, it was decided to analyse companies from the different industries. Moreover, one of the analysed companies is a subsidiary of the EU group, what revealed some valuable results from the academic point of view. The survey,

which consists of three parts: the sustainable supply chain model, the questionnaire related to barriers and drivers for sustainability implementation, and the open questions, was utilized to get a comprehensive view on the studied topic.

Below the answers to the sub-questions are given. Then, with the support of these answers, the answer on the main research question is given as well. The answers include combining, summarizing and comparing the empirical and theoretical findings from the previous chapters.

Sub-question 1: What directions of SSCM do Russian companies focus on: social or environmental sustainability?

Based on the literature review, the concept of sustainability consists of three pillars: economic, social and environmental. That is, the modern society requires companies to concentrate not only on the economic growth but also on environmental and social dimensions of business activities. (Kuhlman & Farrington 2010; Costanza et al. 1992; Dyllick & Hockerts 2002) Moreover, it is not enough to behave sustainably only within the company, but the whole supply chain should be sustainable (Carter & Liane Easton 2011). However, all companies have different priorities in sustainability implementation in SCM, focusing on different sides of sustainability. In order to get a deeper understanding of the sustainability's role in SCM in Russia, it is important to analyze what focus Russian companies make on, implementing sustainability principles in SCM. However, the empirical results appear to be very heterogeneous, when it comes to the sub-question 1. Thus, the answer to this question is less generalized than the answers on the other ones.

First of all, the empirical findings suggest that manufacturing companies have their focus mostly on the environmental side of sustainability, as operating in manufacturing industries implies significant GHG emissions, electricity usage and waste generation. However, the representative of the manufacturing case company originating from Russia highlights that the main driver for environmental sustainability implementation is a pressure from the stakeholders from the EU and US. Probably, this situation shows the lack of interest in the environmental issues from the side of Russian companies themselves and the Russian community and government in general. This also can be proved by the fact that, in spite of being one of the largest retailers in Russia and, consequently, having significant resources to utilize environmental sustainability practices in SCM, another case company demonstrates no interest in this topic at all. However, one can say that this company focuses

on the social side of sustainability, mostly concentrating on community involvement and development. Being a huge Russian retailer, the company has a tremendous number of customers and, according to Forbes Human Resources Council (2017), community involvement is a perfect practice to enhance relationships with customers and society in general. In addition, it is worth mentioning that the only one sustainability practice that is developed or developing by all the case companies is an employee development program. Thus, the following statement can be made: despite the fact that currently the SSCM is poorly developed in Russia, there is an increasing understanding among Russian companies of the importance and benefits of developing employees' capabilities.

All in all, one can see that it is difficult to define the main directions of Russian companies in general, when it comes to environmental and social sustainability implementation. These directions are determined by a big number of factors such as an industry a company operate in. However, the empirical findings suggest that currently for Russian companies, the most significant factor in decision-making process related to the focus of sustainability implementation in SCM is "features" and needs of companies' stakeholders and, specifically, their origin, as it seems that stakeholders from Russia do not require a lot from companies in terms of environmental and social sustainability, while stakeholders from developed countries do. In addition, Adams (2008) claims that developing countries mostly focus on the economic development, trying to strengthen their economy, what does not let them to think a lot of other issues like environmental or social sustainability. Probably, this is also one of the reasons of such heterogeneous results related to this question, since, as Russia is a developing country and has its focus on the economic development, Russian companies do not have a clear understanding of social and environmental sustainability implementation in SCM.

Sub-question 2: What kinds of main drivers and barriers for sustainability principles implementation in SCM exist in Russia?

The theoretical part related to the motives for sustainability implementation describes the driving forces at the general level, not focusing particularly on Russia, as there is no research conducted in this field about Russia. During the literature review, it was revealed that, according to a big number of research, including Azapagic (2003), Sajjad et al. (2015), Mann et al. (2010) and Paulraj et al. (2017), there are a lot of factors that drive companies to adopt the sustainability practices into their SCM. All the drivers can be divided into two main categories: internal and external drivers (Sajjad et al. 2015; Mann et al. 2010). Internal

drivers directly relate to a business such as reduced costs, increased productivity, waste reduction and diminishing energy consumption. Consequently, external drivers are those that originate from society, market and government (Sajjad et al. 2015) like regulation compliance and stakeholder attraction.

The sustainability situation related to Russian companies seems to differ from the one described in the literature to some extent, as the majority of research is conducted on the developed countries. However, there are also some similarities. According to Mann et al. (2010), legislation is considered as the strongest driving factor for sustainability implementation in SCM. Russia is not an exception here. The empirical results show that regulation compliance plays a notable role in driving the sustainability implementation among Russian companies. However, sustainability legislation varies significantly from country to country, what means that different legislations contribute to the sustainability implementation at different levels. Thus, since one can see from the empirical part that, despite the fact that both case companies originating from Russia are very big ones, these companies perform poorly in sustainability implementation, the following statement can be made: the legislation related to environmental and social sustainability in the business sector is really weak in Russia and it does not require a lot from companies operating in the country. Moreover, the lack of regulations was marked by the representative, who is originally from Finland, where the sustainability is developed to great extent, what confirms this statement. “Legislation <...> may be driven by issues like government's concern for environmental degradation, public opinion or pressure, lobbying by interest groups, shortage of resources” (Mann et al. 2010, 54). In this case, such a weak sustainability legislation apparently reflects a lack of the Russian government's and community's concern for sustainability issues, at least, in the business sector.

The literature review also shows that a sustainable supply chain may play a significant role in reputation improvement. According to the empirical part of the research, Russian companies see sustainability implementation as an opportunity to enhance a brand image as well. A positive brand image as a motivator is directly connected with stakeholder attraction, which is also a strong driving factor. However, despite the fact that it seems to be an essential factor for Russian companies, there are some limitations. First of all, the analysis of one of the case companies reveals that, as it has a lot of stakeholders in the EU and USA (the majority of buyers are from these markets), these stakeholders are the ones who require the company to adopt the sustainability practices, not those from Russia. Moreover, another case company, which is a subsidiary of the EU group, see the

stakeholder attraction as a driver and barrier at the same time. This can be explained by the fact that this company has a big number of stakeholders not only in the EU but also in Russia. Since it is mentioned above that there is a lack of concern for environmental and social sustainability in the Russian community, one can say that there should be a lot of stakeholders in Russia who consider the implementation of sustainability practices as a waste of money. Thus, the investments in the sustainability implementation made by a company may even turn away some Russian stakeholders. A positive brand image also helps “to attract the best people to join the company” (Azapagic 2003, 304). However, the empirical part shows that it does not work well for Russian companies. Probably, such a situation is connected with the overall low level of awareness of sustainability issues among Russian citizens. As Russia is a developing country, the focus is mostly on financial factors so far. In addition, according to Sajjad et al. (2015), unsustainable supply chain practices lead toward reputation risks and potential damage of brand value. Speaking of Russia, one can say that, while such situations like an absence of a special waste reduction program in a company do not cause any problems for this company, no matter how big it is, when it comes to an obviously unsustainable behavior damaging the environment or society, the statement made by Sajjad et al. can be definitely applied for Russia as well. For example, the Russian company Natura Siberica, that was called “a rare bright spot for a Russian economy that has been languishing in recent years” by Kramer (2017) in The New York Times and that bills itself as an eco-friendly company, had experienced a serious reputational threat, when it was revealed that its contractors cut antlers of young deer, what is a painful process for animals. The company faced a harsh criticism and lost a notable number of customers in Russia, but currently, it has overcome the situation.

When it comes to financial drivers like reduced costs and other ones connected to it like increased productivity and increased innovations, a lot of research, including Azapagic (2003), Sajjad et al. (2015) and Mann et al. (2010), claim that the implementation of sustainable into a supply chain may lead to better overall financial performance. However, the empirical part reveals that Russian companies do not agree that this can be a driving force for sustainability, because they do not see sustainability practices as a way of financial performance improvement. Indeed, not all sustainable practices are profitable; Pereseina et al. (2014, 24) state that “the majority of the research states that it must pay to be sustainable”. It is also claimed in the same research that sometimes the sustainability implementation in a supply chain may even lower competitiveness and profit of supply chain members due to significant changes in production/service methods and systems.

Nevertheless, when it comes to Russia, it is needed to develop a clear and holistic understanding of what each sustainable practice can bring and that some of them may decrease productivity and increase costs, while others contribute to supply chains in an opposite way. For example, such practices like waste reduction program and electricity usage reduction program usually bring a significant profit in a long-term period. In addition, Azapagic (2003, 302) notes that the sustainability implementation may be valuable from the point of profitability due to "easy access to lenders, insurers, preferential loans and insurance rates". However, as it is mentioned above the Russian government's and community's concern for sustainability seems to be really low. Thus, this is not an important driver, since there are almost no such benefits provided in Russia.

Speaking of barriers, one can say that, according to the empirical part of the research, currently Russian companies see more restraining forces for the sustainability implementation rather than driving ones. However, when it comes to the companies that operate in Russia but originally come from the developed countries (for example, subsidiaries of the EU groups), they seem to have much stronger motivation. Probably, it happens because these companies have a better understanding of the need of sustainability and its benefits, as their head companies in the developed countries have a reach experience related to the sustainability implementation. Moreover, since communities of the developed countries more concern for a sustainability behavior of the companies operating in their countries, stakeholders in the developed countries require from the company groups to have all companies (in all countries) of the group behaving sustainably. Thus, despite the low level of sustainability regulations in Russia, the companies are required by their head companies to implement sustainability practices.

As it is mentioned above, the literature review reveals that the sustainability implementation in SCM usually requires significant investments and may lead to increased costs. Thus, such financial constraints like resource requirements, cost of implementation and reduced costs restrain the sustainability implementation to a significant extent. The empirical results show that these barriers are the most essential for Russian companies. Moreover, according to a lot of research, including Movahedipour et al. (2017), Pereseina et al. (2014) and Sajjad et al. (2015), such factors as lack of moral and ethical values and, respectively, lack of willingness to adopt sustainability at the administrative level can be a significant restraining force for SSCM. As it is found out above, there is a little concern for sustainability the Russian government, as well as the Russian community, has. Thus, a low level of awareness seems to be a strong barrier for Russian companies to adopt the sustainability

practices. Besides, the low level of awareness can lead to resistance to change among employees. In addition, these two group of barriers (financial constraints and human barriers) create a synergy effect: having a low level of awareness, people just do not understand the need of investing a big amount of money to make supply chains more environmentally and socially sustainable.

Main research question: What kind of role does sustainability play in supply chain management in Russian companies?

During the literature review, it was revealed that, according to a big number of research, including Kuhlman & Farrington (2010), Costanza et al. (1992) and Dyllick & Hockerts (2002), the role of sustainability has increased significantly in the 21st century. It has become obvious that the ecosystem is a basic support for the economy and, consequently, should be supported by the economy as well. Moreover, the way how society should be treated by business has been reconsidered. (Kuhlman & Farrington 2010; Costanza et al. 1992; Dyllick & Hockerts 2002) However, making a decision whether or not to implement SSCM practices, each company takes into consideration its impact on financial performance. When it comes to developing countries, the trade-off between financial performance and sustainability implementation is essential. (Jayanti & Gowda 2014) According to Adams (2008), companies in developing countries mostly focus on financial performance and do not pay much attention to other issues like environmental or social sustainability.

Despite the fact that there is a few research related to SSCM in developing countries, the main idea suggested by all of them is that the role of sustainability in SCM in developing countries is low. The empirical findings of the research seem to support this idea from the previous literature. Companies originating and operating in Russia show a small interest in and a weak understanding of the importance of sustainability implementation in SCM. According to White (2009), the first step towards sustainability implementation into a company's supply chain is to develop a clear sustainability strategy, where the main sustainability goals and the ways of their achievement should be defined. However, the analysis of the sustainable supply chain model of the case companies reveals that the sustainability strategy is clearly defined only by the company that originates from the EU. As the sustainability strategy is a basis of SSCM, the presence/absence of it reflects the general level of sustainability implementation in SCM. Thus, the fact that case companies

originating and operating in Russia do not have well-defined sustainability strategy may reflect the overall poor state of sustainability implementation in Russia.

Moreover, based on the literature review, a sustainability reporting has become quite a popular practice among a lot of companies and it serves as a link between a company and its stakeholders. However, Eweje (2011) and Kolk (2004) emphasize the fact that there are significant differences in the sustainability reporting between countries and industries, which are directly connected to the level of sustainability regulation and societal attention. The empirical findings show that companies originating and operating in Russia do not conduct the sustainability reporting. Thus, the following statement can be made: neither the Russian government nor the Russian community seems to pay much attention to sustainability issues related to business. Moreover, the representative of one of the case companies claims that there is a lack of sustainability regulation in Russia, what reflects a low level of concern for social and environmental issues.

The role of sustainability in SCM is also highly determined by the presence/absence of supplier's sustainability performance evaluation, as it is an integral part of SSCM since not only a company itself should be environmentally and socially sustainable but also all members of a supply chain should adhere to sustainability principles (Amindoust et al. 2012). Apart from economic criteria, environmental and social criteria should be added to supplier evaluation. However, the empirical findings suggest that companies originating and operating in Russia utilize only economic indicators such as price and quality, evaluating their suppliers. Moreover, sustainability criteria are not even at the development phase.

Speaking of environmental sustainability, one can say that case companies originating and operating in Russia perform poorly in this field, not conducting any of environmental sustainability practices. One of the most significant elements of the environmental footprint by supply chain activities is greenhouse gases emissions, which, according to IPPC (2014, 125) "increased by about 75 % since 1970". A starting point for any kind of programs toward GHG emissions decrease is an environmental footprint audit directed to GHG emissions (The Carbon Trust 2012). However, this practice does not seem to be common among companies originating and operating in Russia. Moreover, there is no development in electricity usage reduction and waste reduction programs implementation. In addition, the empirical findings suggest that, while stakeholders from Russia do not pay much attention to sustainability issues, mostly focusing on the financial performance of a company,

stakeholders from developed countries may significantly affect on company's sustainability implementation in SCM.

When it comes to social sustainability, the analysis of the sustainable supply chain model of the case companies shows that companies originating and operating in Russia have the best results in this field in comparison with those in environmental sustainability. However, these results are still really poor. Only one social aspect of social sustainability seems to be important for Russian companies to a notable extent – employee development. It means that case companies have started realizing the importance and benefits of developing employees' capabilities. Nevertheless, so far, they do not offer their employees some social programs like work-life balance programs and child care and elder care support. Moreover, there is a low level of different levels' employees' involvement in discussions about the company's direction, strategy and progress. However, Mani et al. (2015) emphasize the importance to provide an opportunity to take part in decision-making process to employees of different levels.

All in all, the empirical results support those of the previous research related to SSCM in developing countries and reveal that the role of sustainability in SCM seems to be very insignificant among companies originating and operating in Russia. Moreover, the Russian legislation related to environmental and social sustainability in the business sector is poorly developed, what probably reflects the lack of the Russian government's concern for sustainability issues. Besides, according to the empirical results, a level of awareness of SSCM practices among companies originating and operating in Russia and society in general seems to be low. Thus, all these conditions determine the role of sustainability in SCM in Russian companies. In this case, one of the main drivers of sustainability implementation is a pressure by stakeholders from developed countries, for whom the implementation of sustainability practices has become an integral part of SCM. However, it is worth mentioning that companies operating in Russia, that originally comes from developed countries, have much more succeeded in sustainability implementation in SCM. It may be explained by the fact that such companies adopt views related to sustainability from developed countries' practice, where the concept of sustainability has become essential.

5.2 Limitations and suggestions for future research

In order to answer the research questions, it was decided to utilize the case studies. The data from the case companies were gathered with the use of the survey, which utilizes both qualitative and quantitative techniques. However, a significant emphasize of the research is on qualitative methods, that usually imply relatively small samples. Thus, one of the most significant limitations is a scope of data collection. The three case companies were analyzed, what is not enough to make strong generalizations related to the studied object. Besides, there is only one representative from each case company to pass the survey, except for one company where there are two representatives. Moreover, in order to get a wider picture of the current situation related to sustainability in Russia, it was decided to opt for the companies from the different industries, what also limits the validity of results as some sectors initially are more sustainable and other ones are less sustainable. Besides, all the case companies are large enterprises, what does not give a holistic picture of sustainability implementation in SCM in Russia, because small and medium enterprises should be analyzed as well. The geographical aspects can be a significant limitation as well. Russia has a huge territory and doing business significantly varies because of the different factors presented in different regions of the country. However, one of the case companies operates in almost all the regions of the country, while each other case company has its manufacturing facilities in one region only. Furthermore, the fact that, while the two companies originate from Russia, the third one originates from the European country may affect the validity of results, because it is difficult to accurately measure the influence of the EU head company on its Russian subsidiary in the sustainability field.

As it was said in the introduction part, there is a gap in the research related to sustainable supply chain management, when it comes to Russia. Thus, further research could provide more generalization by analyzing a larger number of Russian companies. The different industries should be researched separately to get a complete picture of SSCM in Russia. Moreover, the sustainability legislation in Russia could be analyzed and taken into consideration in a deeper way. In order to get a more profound view of the weakest and strongest parts of supply chains in Russia from the point of sustainability, it is needed to analyze each part (transportation, supplier evaluation etc.) separately. In addition, as this research reveals the low priority of sustainability in supply chain management in Russia, it is worth developing specific steps to increase the level of awareness among Russian society and, particularly, companies and creating a strong motivation base for the sustainability implementation in Russia.

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Appendices

Appendix 1. The sustainable supply chain model

		Level 1	Level 2	Level 3	Level 4	Level 5	Comments
General	1.1 Sustainability* strategy	Unknown	Somewhat known	Board knows the company's strategy	All members know the company's strategy	All members know the company's strategy and participate	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	1.2 Sustainability* reporting	None	Internally documented in some departments	Level 2 + shared with suppliers	Internally documented within the whole company and shared with suppliers	Shared with all parties and linked to the company's strategy	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	1.3 Sustainable* Supplier Performance Evaluation	None	Being developed	Applied only to some specific suppliers	Applied only to key suppliers	Applied to all suppliers	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Environmental	2.1 Environmental footprint audit (GHG emissions)	None	Being developed	Conducted by the company only within itself	Conducted by the company within the whole supply chain	Level 4 + verification by a third party	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2.2 Electricity usage reduction program	Out of company's discussions	Informal discussions	Development phase	Implementation phase	Successfully implemented	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	2.3 Waste reduction program	Out of company's discussions	Informal discussions	Development phase	Implementation phase	Successfully implemented	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Social	2.4 Collaboration with suppliers to commit to environmental sustainability goals	None	Being developed	Applied only to some specific suppliers	Applied to key suppliers and related only to one specific goal	Applied to key suppliers and related to the set of goals	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3.1 Employee development program	None	Being developed	Applied only to the limited number of employees	Unsystematically applied to the majority of employees	Systematically applied to the majority of employees	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3.2 Diversity plan (gender balance)	Out of company's discussions	Informal discussions	Development phase	Implementation phase	Successfully implemented	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Eco	3.3 Work-life balance programs	Out of company's discussions	Informal discussions	Development phase	Implementation phase	Successfully implemented	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

