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SOCIALLY RESPONSIBLE SUPPLY CHAINS MANAGEMENT

ABSTRACT

of dissertation thesis for awarding of educational and scientific degree "doctor", area of higher education 3. "Social, economic and legal sciences", professional field 3.8.

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The dissertation work is discussed at a departmental council and is addressed to the Scientific Jury of the Department of Industrial Business and Entrepreneurship at the Faculty of Industry and Commerce of the Economic Academy "D. A. Tsenov "- Svishtov, in the field of higher education 3."Social, economic and legal sciences", professional field 3.8. "Economics", scientific specialty "Economics and Management (Industry)".

The dissertation consists of an introduction, three chapters, a conclusion, a list of the used literature (130 sources in Latin and Internet sources). The exhibition contains the main text, presented in a volume of 176 pages. The main text contains 20 illustrations and 21 tables.

The author is a PhD student through his own preparation at the Department of Industrial Business and Entrepreneurship at the Faculty of Industry and Commerce of the "D. A. Tsenov "- Svishtov. The defense of the dissertation will take place on in Hall of the Economic Academy "D. A. Tsenov "- Svishtov.

The defense materials are available to those interested in the "Doctorate and Academic Growth" sector at the Economic Academy "D. A. Tsenov "- Svishtov.

Reviewers

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I. GENERAL CHARACTERISTIC OF WORK

The relevance of the research topic.

The rapid changes in modern business require companies to constantly develop and improve the existing technologies and management practices. An important feature of the modern context is the increased attention to social problems, which is manifested by spread of the concepts of corporate social responsibility or socially responsible business (CSR). The social responsibility concept focuses on the social problems of consumers, company personnel, and other stakeholders. Social responsibility becomes not just a separate action, but a core that is a clearly defined emphasis on the company's activities, which is permeating all areas and directions including but not limiting to human resources, marketing, strategic planning, supply chain management, etc.

The Supply Chain Management (SCM) is the important part in a modern company's activities. The concept of "Supply Chain Management" has appeared in the theory and practice of modern management recently. In the modern context, the supply chain management is becoming complex and increasingly complex, being an integral part of entrepreneurial activity. Initially, the term "Supply" was understood as the activity on acquiring and delivering raw materials, fuels, components, and other materials that are necessary for the production process.

With all external flows of resources increasing and complicating, there has emerged a higher requirement to form a set of more integrated activities in order to provide the production process with all necessary components. The term "Supply Chain Management" appeared at the end of the twentieth century, having necessitated forming a wider approach to understanding and building a single logical chain of incoming and outgoing resource flows in a company. In the modern sense, the term "Supply Chain Management" does not mean just a flow of resources, but rather building a logical chain for this flow. Therefore, a supply chain is a network between a company and its suppliers, which is built for manufacture of products and distribution of manufactured products.

Ensuring the supply chain management's comprehensive nature in the modern context is also included in the social responsibility area. Thus, building the supply chain is not merely the goal of management, but also implementing the social responsibility concept along the entire length of the value chain in modern business.

The purpose of the thesis research is to substantiate the theoretical and practical foundations relevant to the study of the Corporate Social Responsibility (CSR) diffusion process in the frameworks of the supply chain management.

Proceeding from the purpose of the study, the following **tasks** were set in the thesis work:

- to reveal the essence, features, and forms of appearance of the corporate social responsibility concept;
- to reveal the functional features of socially responsible supply chain management;
- to substantiate methodological approaches to assessing the level of social responsibility in supply chain management;
- to study the present-day trends in socially responsible supply chain management in the frameworks of global business;
- to make a comparative analysis of development level of the socially responsible supply chain management basing on the author's methodology;
- to develop suggestions how to increasing the level of social responsibility in supply chain management.

The object of the study is a system of managerial relations for organizing supply chains in a company.

The subject of the study is the provision of socially responsible supply chain management in the companies, which are engaged in manufacturing and distributing ventilation and climate control equipment.

The main hypothesis: building an effective supply chain in a company (including but not limiting to one based on the social responsibility) is possible only due to use of a comprehensive integrated approach to management.

The Supply Chain Management (SCM) means the comprehensive management of all inbound and outbound flows of the company's resources. This requires using a conceptual approach, in which the goals, tools, principles, methods, and instruments of forming a single end-to-end effective supply chain are clearly interconnected. Introducing the principles of "sustainability" and social responsibility into the company's activities, including the supply chain building, is an urgent problem in the modern context of globalization and greening. Such management has acquired an increased importance that poses new challenges to the theory and practice of modern business. An urgent task for any company, which is of particular scientific interest, includes the instruments for implementing the social responsibility principles, monitoring, and evaluating measures taken at all stages of the supply chain.

Methods of research

The research methodology includes a combination of research methods. The thesis research is based on using the principles of dialectics, the unity of theory and practice, and scientific abstraction. The thesis work has the following methodological basis: system-structural analysis, methods of comparative analysis, quantitative and qualitative analysis, analysis and synthesis, expert assessments, etc.

The works of G. Bowen, K. Davis, and A. Carroll provided a basis for the methodological sources of the social responsibility concept within the frameworks of entrepreneurial activity system, having formed the basis for the theory of the social responsibility concept of back in the 60s of the 20th century. Then, R. Ackerman, W. Buffett, Yu. Blagov, E. Grishnova, L. Laptev, and other authors developed this concept in their works in the years ahead. Now, this concept is being developing in the direction of a more expanded understanding of social responsibility, diversification into new economic areas, and new emerging forms of implementation.

The study of problems related to supply chain management is actively developing in modern economic science and practice. Many scientists, such as T.Chen, L.Cecere, S.Chopra, M.Christofer, G.Gereffi, A.Gunaesekaran, T.Harrison, D.Ivanov, A.Kok, S.Kot, R.Lummus, J.Mangan, M.Miljkovic, P.Kumar, Prashant K. J.Stock, Subhash W., S.Wagle, H.Wannenwetsch, J.Wisner and others justify the

need to apply a more advanced approach to understanding these problems, to develop methodological approaches to building supply chains, and simulate resource flow patterns. At the same time, the issues related to shaping the system of socially responsible supply chain management in a company require further development. The study of the problems related to managing the entire supply chain (from an idea to delivery to the end consumers), consistent implementation of the principles of "sustainability", "greening" in the chain functioning, assessing the degree of social responsibility in the company's supply chains, and so on seem to be very promising.

The informational and statistical base used in the thesis work was made by the dint of monographic studies and articles made by scientists and economists; the materials and analytical reports of international companies, including Azkond; official publications of the government bodies of Latvia and Azerbaijan, the EU, the UN; ISMA research results; various Internet resources.

Restrictions.

The vastness and complexity of the tasks of the dissertation work limit the general study, for greater concreteness and importance of labor the study was carried out in certain permissible limits. The boundaries of the study are limited to the study of conceptual features, as well as scientific and practical problems of implementing the concept of socially responsible supply chains in HVAC market (Heating, Ventilation, and Air Conditioning systems), on the example of the Azkond corporation.

Scientific novelty of the study:

1. Developed new provisions regarding the formation of socially responsible supply chain management in companies.
2. The features of building social management of supply chains in large international companies have been investigated and analyzed.
3. Developed a methodology for assessing social responsibility in supply chain management.
4. Proposals for the improvement and implementation of social responsibility in supply chain management in companies have been substantiated.

5. A mechanism for socially responsible supply chain management in a company is proposed, taking into account the peculiarities of the HVAC market (Heating, Ventilation, and Air Conditioning systems), based on a balanced scorecard.

Basic provisions to be protected:

1. The objectives of socially responsible supply chain management in companies have been determined.

2. The features of building social management of supply chains in large international companies.

3. The proposals for the improvement and implementation of social responsibility in supply chain management in companies.

Theoretical and practical significance

The scientifically substantiated conclusions include the suggestions for improving supply chain management in HVAC companies. The methodology for assessing a socially responsible supply chain was proposed. The suggestions and proposals how to increase social responsibility in supply chain management were substantiated. The key tasks for developing socially responsible supply chain management in the companies producing and selling heating, ventilation, and climate control equipment in the context of the national markets' peculiarities, increasing competitiveness, and effective integration into European and global business space were defined.

The research findings were tested on real data.

The purpose and objectives set for this research were fully implemented, which is reflected in the corresponding structure of this thesis work. This thesis work enriches the theory and practice of supply chain management with account taken of special features relating to the national and global markets.

The approbation of research results.

The main provisions and conclusions of the dissertation research were discussed at international scientific and practical conferences: The 17th International scientific conference Information technologies and management (Riga, 2019); The 18th International scientific conference Information technologies and management

(Riga, 2020); The 19th International scientific conference Information technologies and management (Riga, 2021); International Scientific Conference dedicated on the 85th Anniversary of the establishment of the D. A. Tsenov Academy of Economics (2021).

The results of the dissertation research are presented in international indexed journals: Management Theory and Studies for Rural Business and Infrastructure Development (WoS), Bulletin of national academy of sciences of the republic of Kazakhstan (WoS), Economics and Education (Рига, Латвия), Transactions of the National Academy of Sciences of economical series (Баку, Азербайджан), International Economic Policy (Киев, Украина) and conference proceedings.

II. STRUCTURE AND CONTENT OF THE THESIS

The structure of the work is determined by the logic of the research, its purpose, and tasks. The thesis consists of an introduction, three chapters, conclusions, a list of references and application. The main text is set out on 176 pages. The list of literature contains 130 items. The thesis includes 20 figures and 21 tables, where the factual material is presented.

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III. MAIN CONTENT OF DISSERTATION WORK

INTRODUCTION

In the introduction, the relevance of the research presented in the doctoral dissertation is justified. It is shown important features of modern business associated with increased attention to social and environmental problems. The necessity of introducing the concept of social responsibility into the supply chain management of modern companies was described.

Chapter 1 The theoretical and methodical basis for research of social responsibility in supply management

In the first chapter, the theoretical foundations of the concept of corporate social responsibility in modern business is defined, the essence and features of socially responsible supply chain management is described, methodological provisions for assessing the level of social responsibility in supply chain management is characterized.

1.1. Corporate social responsibility as a modern concept of doing business

Based on the study of existing theoretical approaches, the main stages of the evolution of the concept of corporate social responsibility are summarized, the process of development of its content, expansion and penetration into all areas of entrepreneurial activity is revealed, the system of corporate social responsibility is substantiated, the main components of which are: the goal and objectives of the activity, subjects and objects of CSR, imperatives of construction, types and forms of manifestation of social responsibility.

The evolution of corporate social responsibility concept occurs in the direction to continuous expansion its content. More and more new aspects are being included in the concept of social responsibility of business: the rights of employees, adherence to legislation, the universal human rights, and the interests of local communities. But, most significantly, there is an essential expansion of the environmental aspect in the context of climate change, the need to preserve the environment, and the emerging new threats. Social responsibility is now understood rather as "sustainability", which is confirmed by most of the international organizations' declaratory instruments.

The observed manifestations of social responsibility are comprehensive and manifest in various forms. At the microeconomic (corporate) level, the following forms can be defined: a responsible producer of goods and services; a responsible participant in social and labour relations (personnel management based on the social responsibility principles); a responsible participant in socio-economic and political relations with the state; a responsible business partner, etc.

In the modern context, the idea of social responsibility permeates the entire business management system both at the level of strategic and day-to-day management. In addition, any functional area of entrepreneurial activity (production, supply, marketing, personnel, etc.) also implements CSR ideas in accordance with its functions.

Establishing a socially responsible supply management system within the frameworks of the company's overall business system is very important to ensure effective the CSR system functioning. Implementing the basic functions of supply management based on the social responsibility principles contributes to sharing the positive information and developing the company's positive image.

1.2. Socially Responsible Supply Chain Management in Corporate Social Responsibility

The supply management concept has gradually formed into a separate activity segment in the economic science and practice evolution process. Since the end of the XX century, under the influence of the ICT (Information and Communication Technologies) revolutionary spread, ongoing globalization and the growing interdependence of the economies in all countries, there has been a colossal increase in the volume of world trade and all associated resource flows.

The manufactured products being influenced by technologisation have become more complicated; thus, all the activities related to providing the production process with the necessary components and the manufactured products' sale shall become more complicated accordingly. Due to the tremendous increase in all flows, and increasing complexity of economic relations, there is a need to coordinate differently directed movement for all resources.

As a result of the evolution of the concepts of "Supply", "Delivery", "Procurement" "Logistic", the concept of "Supply Chain" and, accordingly, "Supply Chain Management" was formed. In the modern sense, Supply Chain Management is no longer just the supply of all the necessary resources, it is an integrated activity to ensure the production process with all the necessary components. And the target functions of this activity are much broader.

The Supply Chain Management has become a key component of a single value added chain. The task of SCM is not only to perform the classical functions of providing resources and selling goods, but also to reduce costs and increase the final added value.

It is necessary to note that, despite the widespread and substantiated CSR concept in economic theory and practice, its aspects in supply management still are not stressed enough. There is a clear need to justify including the social responsibility aspects in the company's entire supply management system. The problems related to the formation and features of the socially responsible supply management concept and its place in the CSR system require undertaking a more in-depth research.

The CSR system includes goals, objectives, tasks, subjects and objects, types and forms of manifestation. All these components can be defined both as a whole for all activities, and in certain areas. Extending the social responsibility principles to the practice of supply chain management implies an emphasis on integrated activities aimed at building the value chain, meeting the target market's needs, and, at the same time, taking into accounts the social and ethical needs of the society as a whole. Within the framework of the social responsibility concept, the company, together with the search for potential partners and suppliers, survey of needs of the potential and real buyers, should certainly identify public interests and strive to satisfy them.

The concept of socially responsible Supply Chain Management is very important because it is aimed at meeting the social needs and interests of all population stratum. In the conditions of intense market competition, a competitive advantage is received by a company, which offerings is the best in meeting the buyer's needs, while the company in its activities takes into account the interests of the society and satisfies them foremost.

The main idea of the concept is manufacturing the goods that satisfy the existing needs, taking into account the present requirements and limitations of the society. The main goal is not just to build a value chain based on meeting the needs of target markets, but to implement this process taking into account social and environmental problems, preservation of human, energy, material and other

resources, and environmental protection. Thus, in modern conditions, the introduction of socially responsible Supply Chain Management can become the most effective tool for increasing the company's competitiveness.

1.3. Methodological approaches to assessing the social responsibility level in the field of supply chain management

Assessment of the social responsibility level in the field of supply chain management is an important component in the further implementation of the corporate social responsibility concept, its genesis, and development of individual applied aspects, thus ensuring the companies' balanced development in different industries.

Despite rather significant scientific potential in the field of social responsibility, the problems of assessing the social responsibility level on certain fields of the company's activity still have considerable scope for theoretical, practical, methodological, and research works. Virtually, no methods have been developed for assessing the social responsibility in the field of supply chain management.

The world business practice has gained extensive experience in evaluating companies' CSR. Moreover, the general trend is spreading the CSR international standards in open systems that allow each company to voluntarily publish its reports on social responsibility. These international CSR standards include: ISO 26000:2010 (Guidance on social Responsibility) (Lithuanian Standards Board, n.d.), Occupational Health and Safety Management Systems, OHSAS 18001 (OHSAS 18001, 2007), RG Sustainability Reporting Guidelines G 3.1 (R-32: The Most Balanced ...), Social Accountability International 8000, SA8000 (Social Accountability 8000 ...), Global Reporting Initiative, GRI (Standards GRI, n.d.), etc.

5 blocks of standards are presented in the international standards system GRI (Global Reporting Initiative): GRI 102 - information about an organization, GRI 103 - information about the management system, GRI 200 – economic information, GRI 300 – environmental information, GRI 400 - social standards (Standards GRI, n.d.).

The GRI 308 group of standards addresses the suppliers' environmental performance in the supply chain.

Based on generalization of existing approaches, we proposed to evaluate socially responsible SCM (SR SCM) within the company's general system of social responsibility assessment basing on the following system of performance indicators within the established supply chains:

- 1) *Irm* - the index that shows compliance of the supplied raw materials and other materials, components and accessory parts with the environmental standards;
- 2) *Iet* - environmental sustainability index of transport support for the supply chain;
- 3) *Irisq* - index of product compliance with the international quality standards.

The presented theoretical and methodological approach to assessing the level of SR SCM in companies can be applied in many industries. The general approach to assessing CSR is to calculate the integral index by the forms of manifestation social responsibility in the context of the following groups of indicators: a responsible producer of goods and services, a responsible participant in social and labour relations; a responsible participant in socio-economic and political relations with the state; a responsible business partner. Thus, SCM is an important area of social responsibility implementation, which requires specific approaches to its assessment. We proposed assessing the level of social responsibility in this area using a fractional index calculated basing on sub-indexes within the formed supply chains' mechanism: *the index of compliance of raw materials and other materials, components and accessory parts to environmental standards; environmental sustainability index for the supply chain's transport support; index of compliance for products (services) with international quality standards.*

In general, an integrated assessment of the companies' social responsibility is possible only if there is provided reliable statistical information on them, which requires developing new standards for generation of analytical data, reduced to one form. In our opinion, the assessment of companies' corporate responsibility and their supply chains from their policy perspective is even more important. Based on this, we

consider it appropriate to introduce the Key Performance Indicators system, which can be adapted by each company to its own characteristics and specific goals. The assessment of the company's internal environment based on four main criteria: finance, customers, staff, and internal business processes, seems to be the most reliable.

Thus, the adoption of the social responsibility concept should be the main idea that permeates the company's main objectives - from strategy formation to decision making within the framework of the companies' operational activities. The use of Key Performance Indicators will allow controlling the level of achieving the corporate responsibility objectives with the framework of the company's activity.

MAIN CONCLUSIONS TO THE FIRST CHAPTER

An important position in modern business is occupied by the socially responsible supply chain management. To implement this concept, it is necessary to solve the following strategic tasks: the building the entire value chain based on the public interests and the needs of potential and real consumers; using only environmentally friendly materials and technologies at all stages of the production cycle; implementing the social responsibility principles in its internal and external activities; being a reliable business partner with a good reputation, and taking into account and satisfying the consumers' interests.

Chapter 2 Assessing the social responsibility level in the supply chains management

2.1. The external environment for the corporate social responsibility's formation in global supply chains

Since the beginning of the 21st century, deep transformation processes are taking place in the world economy under the influence of a whole set of global, industrial, technological, environmental and other factors. The rapid spread of ICT on a global scale leads to the formation of global networks - Global Value Chains (GVC), as well as Global Supply Chains (GSC).

At the same time, Sustainability is becoming a key trend in the development of business and society in the 21st century. As a result of the complex impact of a large number of external and internal factors, social responsibility is increasingly integrated into the activities of companies. The introduction of social responsibility into the construction of SC involves the spread of its principles not only in key processes (supplies), but begins from the very beginning - the choice of goods and determining its qualities - and ends with delivery to the end consumer.

The implementation of corporate social responsibility can include social and environmental goals. Social goals include: the development of a culture of consumption and the level of consumer knowledge about the environmental, economic and social aspects of goods or services, the reputation of a manufacturer or company that provides services; promoting human rights, overcoming poverty, continuous training of workers; promoting the development of innovations in the social sphere by creating appropriate working conditions. Environmental goals: more rational use of natural resources and reduction of emissions, eco-innovation, the creation of an environmental management system, the purchase of energy-efficient equipment, the transition to alternative energy sources, and the like.

The Social Responsibility proves out itself in Supply Chains (SC) not only due to developing an environmentally positive or human-oriented format at the supply stages, but also due to observing these principles at all stages and even after product consumption. Throughout all SC stages, the social responsibility is displayed through two key points: on the one hand, it minimizes raw materials, energy, water, trash, and waste, and on the other hand, it maximizes the positive effects of production (environmental standards, environmental payments, profit, human capital management, and its enrichment).

The Green Supply Chain principle is becoming more and more relevant in the practice of most of the world's companies. A system of tools is being developed that maximizes efforts to green and socialize the entire SC - from idea and design to product recycling. Due to the control and coordination between all its elements, a feedback is formed behind each link in the chain, thereby it ceases to be linear and

becomes a chain with a closed loop. The main goal is to create a balance between the activities of the corporation, profit, the environment and humanity.

2.2. Forms of manifestation of companies' social responsibility

The main forms of company's corporate social responsibility can be identified as follows: adoption and publishing of social, ethical and other codes; introduction of new accounting and reporting standards in the field of CSR; preparation of regular social reports subject to monitoring by special organizations; developing a green business using European approaches and instruments; increasing of environmentally friendly goods production; introduction of mandatory social and environmental labelling of goods, for example, "eco-goods", "made from waste", etc.; implementation of social investments; transparency, informing consumers about goods and services.

The implementation of CSR principles is voluntary today. Nevertheless, companies that strive to be competitive not only today, but also in 5-7 years, are implementing these principles currently. The most relevant trend in the modern development of the CSR concept is a dramatically rising attention to environmental issues. Modern consumers are becoming more environmentally friendly, as they take into account the environmental factor when buying or consuming products and services. Therefore, the company leaders pay an increasing attention to the strategy of making "environmental" decisions, in which the social responsibility of companies is manifested. At the same time, since such decisions have negatively affected financial performance as a whole, not all companies take environmental factors into account when making strategic decisions.

The forms of corporate social responsibility manifestation are influenced by the fact that companies strive to create "green" technologies, "green" products, considering the wishes of customers to see not only environmentally friendly products, but also to know that the production process also does not make threats to the environment.

Thus, there are most common forms of manifestation of the companies's socially responsible activities: environmental certification of enterprise products, certification of the production process based on international standards (implementation of a quality management system in accordance with ISO 9001, the presence of environmental management systems in accordance with ISO 14001, etc.), ensuring decent pay and working conditions for the population residing the region where the company operates. The analysis of the largest world companies allowed to systematize information (see Table 1):

Table 1. Forms of manifestation of corporate socially responsible activities

Forms of manifestation of socially responsible activities of companies	Northrop Grumman	Target	VINCI	ACS Group	Bechtel	Belimo	CAREL
Company Code of Conduct and Social Responsibility	+	+	+	+	+	+	+
Environmental certification of finished products	+	+	+	+	+	+	+
Production of ecological products	-	-	-	-	+	-	-
Ensuring an adequate level of remuneration and its conditions for both the company and suppliers	+	+	+	+	+	+	+
Compliance and compliance with international human rights standards and labor market rules	+	-	+	+	+	+	+
Supplier compliance with environmental standards	+/-	+	+	+	+	+	+
Environmental certification (ISO14001, EMAS or equivalent)	+	+	+	+	+	+	+
Adjusting the quality of the materials supplied and their compliance with RoHS and REACH (or equivalent)	+	+	+	+	+	+/-	+/-
Analysis of labor standards and practices of suppliers or subcontractors	+/-	+/-	+	+	+	+/-	+/-
Disposal adjustment of products RESY (or equivalent)	+/-	+/-	+/-	+/-	+	+/-	+/-

Note: «+» - the form of manifestation is presented in full, "+/-" - partially presented, "-" - not represented.

Thus, the social responsibility of companies has already become an urgent need for modern business, which is associated with the growing influence of environmental and social movements in society. Moreover, at the current stage of market development, companies adhere to these principles not only within their production, but also control the "environmental friendliness" of all incoming and outgoing flows. A certain "cascade" social responsibility is being formed, which is

based on the company's full responsibility for all stages of the production cycle (from the starting idea up to disposal).

2.3. Comparative assessment of supply management from the perspective of social responsibility in companies

For the companies, which are involved at building and maintaining infrastructure, the social responsibility is highly relevant in the context of the end-result. The need to ensure the environmental safety of materials and components that are used in the building industry grows with the technological progress. For today's consumers, the information on minimizing energy losses, environmental safety, service costs, and durability is becoming much more important. The main environmental sustainability characteristics for heating, ventilation and air-conditioning equipment include the following requirements: sufficient daylight; comfortable temperature mode; high quality indoor air; no noise.

The formation of systemic diverse supply chains based on social responsibility principles implies monitoring compliance with ethical and environmental principles throughout the supply chain. All suppliers go through an assessment process that identifies companies at risk of reduced productivity. Supply chain control focuses on preventing product quality degradation at all stages of its production, prohibiting counterfeit parts and complying with cyber security, protecting intellectual property, improving product quality, engineering, etc. Thus, only those suppliers are allowed into the supply chain who share the values of the leading company and are committed to fulfilling them. At the same time, one of the key components of building a company's value chain is ensuring labor safety for employees.

The world's largest building companies adhere to social responsibility policies along with the global leaders. For example, Vinci building, the world's largest building company, has developed an integrated approach to supply chain management, which is characterized by continuous improvement, innovations, and sustainable procurement. One of the main conditions for entering the supply chain is the requirement to share the company's values on the issues of social and

environmental responsibility, to ensure the quality and professionalism that are expected from VINCI direct employees. The company has developed the process of "Supplier and Customer Relationships in Action, SCRIA" (Vinchi Facilities, 2020b) for proactive supplier relationships management. The company's suppliers participate in the bidding phase, which makes them an integral part of such stages as collecting information, developing requirements for contracts, and gives them the opportunity to understand the market and the company's requirements for social responsibility.

The ACS Group Directory Building Group is on the second position by the social responsibility implementation in the world. ACS Group has many chain systems that vary depending on the companies' operational needs. The Central Department defines the policy and prices with a high degree of autonomy, but it always remains within the common policy's context. In 2018, the ACS Group's Board of Directors approved the Code of Conduct for ACS Business Partners, to which all business partners must adhere to, and which they shall adopt in their relations with ACS (Suppliers and contractors, 2020).

ACS Group of companies work with three different types of suppliers or subcontractors: Suppliers of materials and / or services specified by the customer; Service providers or subcontractors under a contract with ACS Group; Suppliers of materials under a contract with ACS Group.

All suppliers go through a system of verification according to several main criteria (financial and non-financial): price, payment period, work experience, professional prestige and technical capabilities; history of contractual fulfillment and previous relationship with ACS Group; additional non-financial criteria tied to adherence to the Code of Conduct for Business Partners. To approve the supplier, there is a whole system of regular internal and independent audits, a procedure has been developed to provide feedback and guarantee compliance with contractual provisions and agreements, and to identify economic, environmental, and social risks. For this, there is a whole system of regular internal and independent audits. As a result of the analysis, ACS Group identifies crucial suppliers in its Supply Chains.

The companies are crucial, if the percentage of purchases or subcontracting costs is much higher than the average costs for other suppliers.

Bechtel Company ranks third by social responsibility concept implementation in the world (Bechtel's Expectations..., 2020). The company works only with the qualified suppliers and subcontractors, which undertake delivering quality goods and services safely, responsibly, on time, and on budget. Although quality, cost, and timeliness are important, the company does not request and does not give orders and subcontracts for purchase to those suppliers and subcontractors that do not meet the standards of safety, ethics, behaviour, and human rights protection. Bechtel adheres to the industry's highest standards on safety, ethics, and human rights, and expects the same from its suppliers and subcontractors.

Suppliers and subcontractors must comply with all requirements of the purchase order. They also must report to Bechtel immediately about any actual or potential violations. To the extent that the purchase order or subcontract does not contain specific requirements, the company expects suppliers and subcontractors at all levels of performance to fulfill all their obligations and comply with all laws and regulations. The suppliers and subcontractors must be familiar with all applicable laws and regulations and always comply with them when performing work. Suppliers and subcontractors must also ensure that suppliers and subcontractors of the lower level provide an identical representation in their subcontracts and purchase orders for any part of the work. Bechtel is committed to the sustainable development goals of the UN and the Paris Climate Agreement.

However, it is worth noting that not only large global companies adhere to the social responsibility principles. Belimo company engaged in the production of industrial climate equipment and equipment for industrial water use is an example. The company demands of its suppliers to sign a declaration agreement, in which they undertake to, comply with the basic conditions of social responsibility within the framework of The Code of Conduct. If the supplier company has standards other than Belimo, it undertakes to adapt its standards to the Company's Code. In accordance with these standards, all suppliers are obligated to submit a written report on

measures taken to ensure social responsibility once a year and any participant in the supply chain can check this report for compliance with the conditions and requirements of social responsibility.

If the supplier or subcontractor violates the rules or opposes inspection, Belimo has the right to terminate the existing supply agreement. The Code of Conduct includes the following serious violations, but not limited to: child labour, corruption and bribery, serious violations of employees' rights protection, and major violations of environmental laws.

Belimo products facilitate implementing the solutions that create measurable sustainability benefits. For example, it can be energy savings through heating, ventilation, and air conditioning systems (hereinafter referred as ACE) in commercial buildings. The potential is huge: the buildings account for about 40% of the global energy consumption and harmful CO₂ emissions. As a member of the UN Global Compact, Belimo Company is actively contributing with its products to sustainable development being in line with the UN goals.

CAREL (Italy) is another company, which is operating in the market of industrial and commercial equipment, and in the market of heating, ventilation, and air conditioning systems; this is a consolidated company, which is represented at the international level in more than 80 countries. Like most companies operating in the market for ACE, it puts environmental issues at the core of its activities and social responsibility concept. The sustainable development concept applies to the entire production chain. CAREL's Sustainable Development Policy aims to combine the environmental needs with local and international regulations, as well as with the Company's value system and responsibilities.

The company's activities on a global scale require establishing of a supply chain, in which 555 suppliers and participants were involved in 2018, of which the manufacturers prevail at the cost of turnover (71%). The company's relations in the procurement field are based on compliance with the laws and regulations in force in the country related to labour, human rights, health and safety, environmental protection, and anti-corruption legislation, as well as the application of the principles

set forth in CAREL's Code of Ethics. Each supplier is also required to ensure the respect for fundamental human rights, the principles of equal treatment and non-discrimination, as well as the prevention of child labour and forced labour.

CAREL provides selection of suppliers with consideration of their technical skills, goods / services quality, timely delivery, prices, payment terms, and purchase conditions. CAREL places high requirements for its suppliers on productivity in terms of cost, quality, service, and sustainability. All suppliers are pre-approved in accordance with the procedures certified by quality management system prescribed by ISO 9001: 2015.

One of the company's main working requirements is strict compliance with applicable laws and regulations in order to protect the environment, reduce pollution, and promote achieving exemplary results in this area. In addition, CAREL contributes to scientific and technological development related to environmental protection and resource conservation in the development of its industrial activities.

CAREL uses the modern management approach, which involves the energy efficiency assessment during selection of production equipment, vehicles designed to carry goods, materials, and people, as well as technical and technological systems. CAREL is implementing initiatives to replace lighting fixtures with low-energy LEDs, replace thermal combustion vehicles with hybrid vehicles and improve thermal insulation of buildings (exterior coatings and blinds for window surfaces).

Thus, the world leading companies do not simply adhere to the social responsibility principles in their current and strategic activities. For the most part, they build supply chains only with the companies that adhere to similar values or impose their values on them by signing an agreement on the Code of Conduct.

In modern conditions, a higher level of manifestation of the company's social responsibility is the situation when the company thinks not only about its internal activities, but also builds the entire supply chain on the principles of social responsibility. By making demands on all of its potential counterparties, the company is expanding its impact on the business environment on a global scale many times over.

MAIN CONCLUSIONS TO THE SECOND CHAPTER

1. The global supply chain is a sequence of three main stages: the first is an upstream flow that is accumulation of necessary resources; the second is the production process itself; and the third stage is a downstream flow that is the manufactured products sale to wholesalers or end consumers. Despite the complexity and diversity of all modern problems, the choice of a socially oriented vector of business development is uncontested for any company.

2. The main forms of the companies' corporate social responsibility include: adoption and promulgation of social, ethical, and other codes; introduction of new accounting and reporting standards in the CSR field; compilation of regular social reports subject to monitoring by special organizations; building a green business using European approaches and instruments; increase in production of environmentally sustainable products; introducing mandatory social and environmental labelling for goods, for example: "eco-goods", "made from waste", etc.); making social investments; transparency, informing consumers about goods and services, etc.

3. Sustainability is a key trend in the business and social development in the 21st century. At the modern development stage, the "green supply chains" principle is being actualized, which is manifested through forming social responsibility along the entire industry vertical and forming the vertical diversification. The main objective of such supply chain is to create a balance between the corporation's activities, gaining of profit, the environment, and human rights protection. Socially responsible "green" business involves the following: free access to information regarding environmental sustainability of products; consumer confidence in the proposed ecological materials; access to new markets, competitiveness; environmental materials create advertising for them; consumer consultation at any stage.

4. The introduction of social responsibility in the activities of the companies involved in building infrastructure facilities has a particular relevance. Both the largest construction companies in the world and the heating, ventilation and air conditioning (HVAC) companies are committed to social responsibility policies,

including in supply chain management. A situation where the company thinks not only about its internal activities, but also builds up its entire supply chain basing on the social responsibility principles proves to be a higher level of a company's social responsibility demonstration. Thus, having put forward the requirements for all its possible counterparties, the company repeatedly expands its influence on the business environment at a global scale.

3. The main directions for forming the mechanisms of socially responsible supply chain management in companies

3.1. The conceptual provisions for forming the mechanisms of socially responsible supply chain management in companies

Efficient management of socially responsible supply chains is the key to increasing the companies' competitiveness implementing corporate social responsibility values, ensuring their balanced development in the medium and long term, and increasing the sales of high-quality, environmentally friendly products.

The goals, objectives, principles (consistency, comprehensiveness, adaptability, scientific validity, social orientation, and priority of public needs), blocks (regulatory support, organizational and economic provision and socio-economic provision), main directions of action (implementation of international product quality standards and international environmental management systems, expanding productive employment opportunities, ensuring decent wages and working conditions for the population of the region of the company's presence, developing the company's social infrastructure) and socio-economic results (increasing the competitiveness of companies, implementing CSR values, ensuring balanced development of companies in the medium and long term perspective, growth in sales of high-quality, environmentally friendly products) mechanism of socially responsible supply chain management in companies are defined in the thesis.

The mechanism of socially responsible supply chain management includes regulatory, organizational and socio-economic provision. The goal of building a mechanism for socially responsible management of SC in companies is to implement

the values of social responsibility and increase the efficiency of the company, its competitiveness and ensure balanced development at all stages of building SC: from the moment of choosing a supplier to the stage of monitoring its activities. To achieve the goals of the socially responsible SC management mechanism, the following tasks must be completed: 1) improving the company's supply activities basing on social responsibility; 2) implementation of international product quality standards; 3) implementation of international standards for product transportation, storage, and delivery; 4) increasing the "green products" share in the company's sales structure; 5) ensuring consideration of the key stakeholders' interests; 6) ensuring productive employment of the population living in the region where the company operates; 7) development of the companies' social infrastructure, etc.

Within the framework of regulatory support for SC socially responsible management mechanism in companies, the following threads can be distinguished: implementation of international product quality standards; implementation of the international environmental impact management standards; environmental certification of the company's products; development and implementation of the company's internal standards for the supply activities management based on the social responsibility principles, etc. Not only the product quality standards are being introduced, but also the environmental standards. Above of all, this is about a quality management system according to ISO 9001, and the environmental management system in accordance with ISO 14001.

In addition to ISO, there are also a number of European Union directives that regulate the activities of electrical equipment manufacturers (The European Council Directive 2014/35 / EU on Low Voltage Devices (LVD Directive)). Using environmental labelling is regulated at the legislative level in accordance with the Technical Regulations for Environmental Labelling in each country, respectively, with the Regulation of the European Parliament and the EU Council of 11.25.2009 66/2010 / EC on the EU Ecolabel. Back in the early 90^s, a program was developed aimed to prevent inflicting damage to the environment from leakage of refrigerants and the release of ozone-depleting substances into the atmosphere. Overall, the EU

has a system for controlling the circulation of fluorinated gases (Directive 842/2006 (Regulation (EC) No. 842/2006 of the European Parliament and of the Council of 17 May 2006 on Certain Fluorinated Greenhouse Gases).

One of the priority measures aimed to ensure effective SC management based on the social responsibility principle is developing and implementing the company's internal standards. The development of these standards should be based on international standards of social responsibility, primarily on the standard ISO 26000: 2010 "Guidance on Social Responsibility".

Organizational provision for the mechanism of socially responsible supply chain management in companies includes: ensuring productive employment of the population in the region where the company operates; implementation of the values of social responsibility in the activities of the procurement department; coordination of the activities of all structural divisions of the company for the effective dissemination of information about the company's social projects in the media; implementation of modern information solutions in the company's activities; organization of the processes of preparation and publication of social reports of the company, etc.

There are the following key steps in SC building: selecting resources and materials, selecting suppliers, and the SC functions monitoring. At the stage of selecting the company's suppliers, while implementing the social responsibility principles the company should choose those partners, which meet the highest standards professed by the company. Therefore, it is worth noting that at the stage of selecting the resource suppliers, AzCond Company chooses the companies based on two key criteria for selecting resources: human resources and materials. According to the "human resources" criterion, there are the following main parameters for the companies' selection: compliance with the basic rules for protecting human rights, suppression of illegal employment, combating child labour and forced labour, etc. The criterion of "materials" is primarily determined by compliance with environmental norms and standards, among which there are the standards for the production of raw materials, their utilization, and the allowed amount of waste,

availability of recycling, and participation in further production. Overall, the key mechanisms for implementing the social responsibility principles should be implemented at the key stages of the company's work (see Fig. 1).

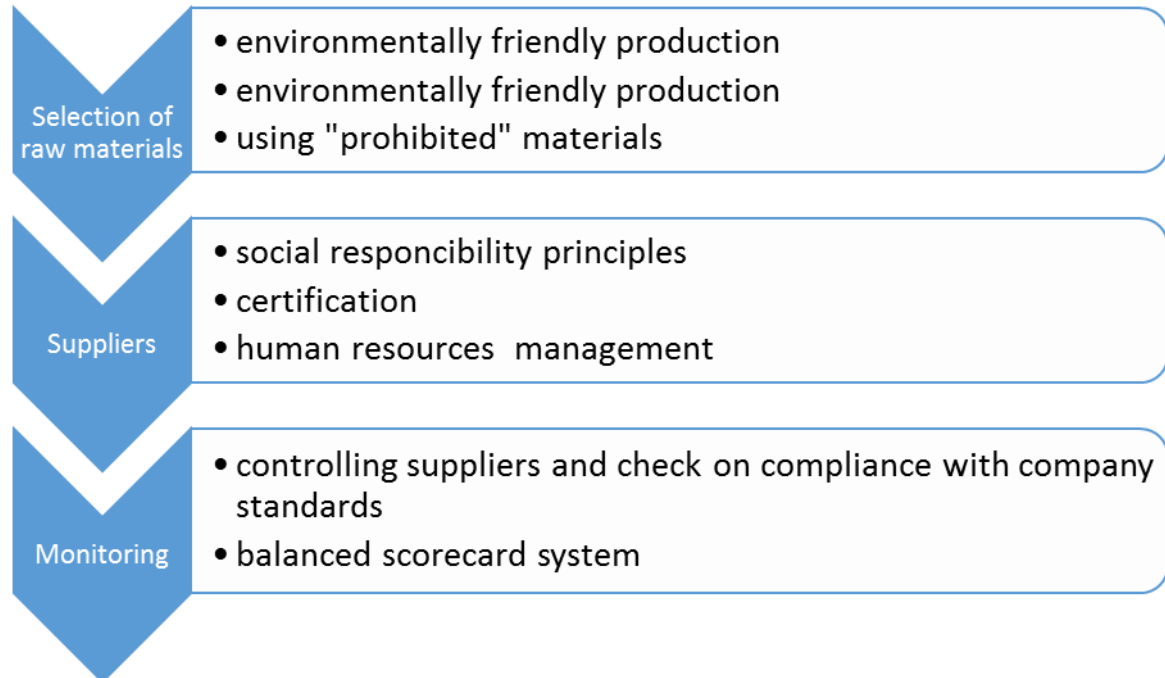


Fig. 1. The main stages of AzCond Social Responsible Supply Chain mechanism implementation

In the algorithm for building a socially responsible and ecological SC, an important stage is the selection of the "right" suppliers with a high level of their own environmental and social responsibility. If a company belongs to the world leaders, it itself can dictate the conditions for choosing an intermediary. However, companies with less market power cannot dictate their terms and select at a completely different level. Smaller companies have more room for personal analysis of the company and pay more attention to economic criteria for greening operations and the supply chain.

Social and economic support is implemented through human resource management, which includes: ensuring productive employment of the population in the region of the company's presence; implementation of the values of social responsibility in the activities of the supply department; coordination of the activities of all structural divisions of the company for the effective dissemination of information about the company's social projects in the media; implementation of

modern information solutions in the supply chain of the company; organization of the processes of preparation and publication of social reports of the company, etc.

Ensuring productive employment of the population in the region where the company operates is one of the most important social tasks. An effective solution of this task could help to overcome many crisis events both in the labour field and in public life as a whole. Not merely spreading the declarative statements about "caring for employees, consumers, or other stakeholders", but also the productive employment and ensuring decent working conditions is a prerequisite for the company to be truly socially responsible. The priority tasks for a socially responsible company should be selling safe products to consumers and satisfying their needs for high-quality equipment.

Success factors for the concept of a socially responsible supply chain are: not selling goods that are harmful to the health of consumers, meeting customer needs, applying environmental technologies, adhering to ethical principles in decision-making. Taking green business as the basis for shaping its development strategy means the company's proactive efforts to reduce carbon emissions, process and purchase environmentally friendly products.

Given all SC stages, it is necessary to understand that at each stage the companies have different manifestations of social responsibility, considering the specifications of a particular company. For analysis and testing in the work, AzCond Company, which is engaged in the production and maintenance of air conditioning, ventilation, etc., was taken.



Fig. 2. Azkond Supply Chain

For the company, the chain is set for each customer separately, which is associated with an individual approach to each client, based on the needs and the

characteristics of premises, requiring the installation of an air conditioning system. The AzCond Company's unified supply chain is displayed as follows (see Fig. 2.)

With respect to the special aspects of the company's activity, and with regard to the fact that the number of suppliers, sellers, distributors, and subcontractors is very large, they shall be selected individually for each project. As the whole, the supplier base contains about 100 companies, while the staffs of AzCond Company alone have 152 people who provide various stages of the order execution process. To ensure warehousing and storage of products, the 1C software for warehouse management is used. The company is actively using electric vehicles (an electric forklift for loading / unloading materials and small equipment); since 2015, the company has switched to hybrid vehicles that are involved in after-sales service. The social responsibility concept at the point of building trust and loyalty of employees is implemented through constant staff training, advanced training, staff development, and ISO certification.

Overall, a targeted policy of introducing the social responsibility principles in the company has been provided since 2015, and the indicated measures have generally led to a reduction: electricity costs decreased by 6% due to "greening" of warehouse facilities; the service team's fuel costs reduced; given the frequent operation of hybrid cars and the travel distance, it is planned to compensate for the difference in price between hybrid and fuel vehicles within 5 years; halving transport costs as a part of optimizing export-import flows and introducing a joint transportation system since 2015; operational errors and the time spent on finding the right materials were reduced by 15% after applying the warehouse accounting program.

Since January 2020, the company introduced the Balanced Scorecard (BSC) into its activities framework, having focused on a further decrease in the main expenses. At the same time, it should be noted that Azkond company cooperates with sufficiently strong global suppliers of equipment and components, which themselves can dictate the terms of work or cooperation, but the company controls certain stages in full.

Thus, the proposed mechanism for socially responsible management of the company's chains takes into account the peculiarities of the ventilation and air conditioning equipment market, reflects the current state of affairs in the field of implementation of the values of social responsibility in companies, lays down further prerequisites for increasing the efficiency of supply activities based on the principles of social responsibility in conditions of socio-economic instability, significant impact of crisis phenomena and a large number of internal and external risks and threats.

3.2. Formation of socially responsible supply chain management based on a balanced scorecard

In the modern context, the social responsibility concept is becoming an integral feature of the business management system in all areas of economic activity. The SCM practice and theory is being improved every year. New approaches and instruments, which can have a beneficial effect upon the environment and on the society as a whole, are being developed.

Thus, the implementation of SRSCM helps to improve the quality of business management, strengthen the company's image, and improve the reputation, financial performance, and so on. In the field of building infrastructure facilities, SCM is associated with the organization of the search process for suppliers of necessary materials, accessory parts and components, transportation, mounting and installation of equipment, with advertising and product sales. The SRSCM concept in the field of production and sale of ventilation and air conditioning equipment (HVAC) is a combination of targeted and fundamental principles of the company management, and, primarily, the priority of sustainability principles in the production, delivery, and sales.

Overall, it is worth noting that in the developing countries the social responsibility concept is not a priority for business development. AzCond Company operates in such a market where the availability of social responsibility reports gives no incentives at all. Very few companies report CSR and even fewer take into account the social responsibility of supply chains (Table 2):

Table 2. Dynamics of the Number of Companies Verified in the GRI system

Country	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total Registered Companies
Azerbaijan	0	0	0	0	0	0	0	0	0	0	1
Georgia	1	1	1	1	1	1	1	1	1	0	2
Kyrgyzstan	0	0	0	0	0	0	1	1	1	0	1
Kazakhstan	0	2	2	2	4	2	3	3	3	1	6
Uzbekistan	0	0	0	0	0	0	0	0	0	0	1
Armenia	0	0	0	0	0	0	0	0	0	0	0
Uzbekistan	0	0	0	0	0	0	0	0	0	0	0
Turkmenistan	0	0	0	0	0	0	0	0	0	0	0

Note: completed by the author based on (Sustainability Disclosure, 2020)

Having analysed the companies' structure from selected countries, we can notice that the companies working with European markets with high requirements are among the most active in this market. It is worth noting that among the companies in Azerbaijan; only one company is registered in this system, and, at the same time, does not submit reports on social responsibility. This is SOCAR Company operating in the energy market.

The balanced scorecard - BSC acts as an effective instrument to identify the efficiency of the company's strategy implementation, including social responsibility. In our opinion, the BSC system should be implemented with the aim to control the supply chain functioning based on the social responsibility principles. AzCond has implemented BSC indicators for its suppliers to ensure implementation of the social responsibility principles.

BSC (Balanced Scorecard) is a system for evaluating and measuring the achievement of the company's strategy objectives. It was developed by professors R. Kaplan and D. Norton from Harvard University. A feature of this approach is that in the context of achieving the company's strategic objectives, the evaluations of various aspects of the company's activities are made and synthesized. According to the approach developed by R. Kaplan and D. Norton, four key indicator systems are distinguished: *finance, customers, personnel, and internal business processes.*

Relevant objectives are formulated for each of these blocks; a SWOT analysis is made; the indicators, cause and effect relations between all objectives and planned measures aimed at achieving the objectives are determined.

General BSC also highlights a system of the key performance indicators that are most important for the company - Key Performance Indicators (KPI). The advantage of this approach is complexity, since the main attention is focused not only on financial indicators, but also on other important indicators. Moreover, all indicators are considered and analyzed in the relation and interdependence. This allows identifying the system dependencies, monitoring the achievement of key objectives, and making system decisions.

The adoption of the social responsibility concept as the basis of its functioning should cover both the overall strategy and the entire operational activities of the company. When used, BSC allows tracking the processes of achieving socially important objectives, both in the external and internal activities of the company.

To implement the development strategy for the company engaged in HVAC sales based on the social responsibility principles, we propose the following BSC:

1) **Finance.** *The objective* is achieving a stable financial condition based on the social responsibility principles. *Indicators* are displaying high level of profitability; turnover growth; amount of Freon used (reuse); the amount of a modern group of environmentally sustainable fluorine-free refrigerants used; reuse of materials and assessment of their value; the number of blast-heating apparatus used and energy savings; the number of environmentally sustainable boilers used, an assessment of their efficiency.

2) **Customers.** *Objective* is satisfaction of consumers' diversified needs by offering environmental products. *Indicators* are displaying percentage of safe refrigerants used in products; percentage of customer refusals from cooperation; percentage of regular customers (more than 2 transactions; service; more than 1 year of cooperation); assessment of design efficiency, and an individual approach to the cooling systems design.

3) **Personnel.** *Objectives* are the development and motivation of personnel, implementing the principles of trust, transparency, and protection of social interests. *Indicators* are displaying the volume and share of expenses for employees' certification; volumes and share of expenses for personnel development; volumes and share of expenses for stimulating employees.

4) **Internal business processes.** *Objective* is to accelerate and increase the efficiency of all internal processes. *Indicators* are displaying accelerated service operations; reduction of time for placing orders; reduction of spoilage and waste; reduction of equipment maintenance and repair costs; reduction of time and costs of transportation operations; use of automated warehouse management systems; use of alternative energy sources; disposal of old equipment; rising costs for pollution control equipment.

A company is capable to clearly monitor the implementation of its development strategy, identify weaknesses, and consistently adhere to the social responsibility principles and objectives in its activities. It is worth noting that SCM is not only a competition instrument, but also it is an intangible asset that is taken into account in the company's investment assessment. The existing trust in the company is becoming a powerful asset that brings long-term benefits. These benefits include: improving the quality of company management, strengthening the image, improving reputation, better the financial performance, etc. Thus, SRSCM is a practical expression of the CSR's external component of business. Thus, the company's high business reputation and the formed trust of consumers begin to act as a powerful competitive advantage.

Overall, the supply chains assessment is a component in the general structure of corporate social responsibility. At different stages of SC development, a company must evaluate different parameters accordingly with BSC.

Although, less than half of the companies around the world reported on sustainable development (or at least they have a plan to do it over the next five years), a thumping majority (57%) agreed that integration with financial reporting will be a necessary incentive to form non-financial reporting, and overall they agreed with its

necessity in concept (Corporate social..., 2014). Overall, this concept is supported by 46% of companies in South America, 33% of companies in Asia, 27% in North America, and 26% of companies in Europe (Fig. 3).

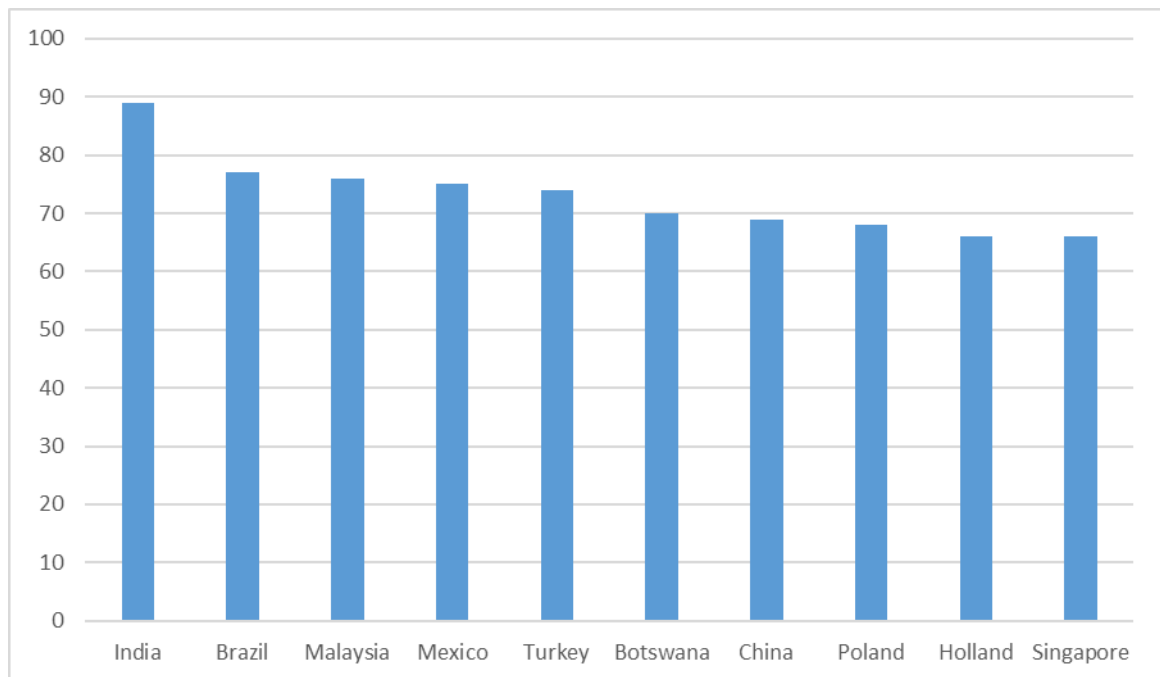


Fig. 3. Share of the companies that agree with the idea of combining financial and non-financial reporting (Corporate social..., 2014)

Therefore, one of the companies' main tasks in building the SC is implementing environmental and social practices; another task is to form a consumer's confidence that social responsibility is implemented at all stages of the finished product's production - from the purchase of raw materials to delivery of the product to the store or a consumer.

Thus, the key areas for forming of "green" SCs are identifying the incentives and barriers for formation of the companies' social responsibility and SCs in a specific country or market; defining the indicators for assessing of the company's and SC's level of social responsibility; risk management and proactive approach to the SC formation; implementation and management of the CSR principles in all stages of SC (i.e. from the moment when there appears an idea to produce a specific product until its disposal).

MAIN CONCLUSIONS TO THE THIRD CHAPTER

Effective SRSCM is the key to increasing the competitiveness of companies, implementing CSR values, ensuring balanced development of the company in the medium and long term, and increasing sales of high-quality and environmentally sustainable products.

The mechanism of socially responsible supply chain management includes regulatory, organizational and socio-economic provision. The goal of building a mechanism for socially responsible management of SC in companies is to implement the values of social responsibility and increase the efficiency of the company, its competitiveness and ensure balanced development at all stages of building SC: from the moment of choosing a supplier to the stage of monitoring its activities.

An important tool for implementing the company's development strategy based on the principles of social responsibility can be a balanced scorecard: finance; customers; personnel; internal business processes. The paper proposes a balanced scorecard designed for companies operating in the production and installation of HVAC equipment.

CONCLUSIONS:

The thesis paper defines the theoretical foundations of socially responsible supply chain management, methodological provisions for assessing the level of social responsibility in supply chain management, substantiates the conceptual principles for shaping the mechanism of socially responsible supply chain management in companies, identifies the key aspects of forming the socially responsible supply chain management for ACE based on a balanced scorecard.

1. The formation and evolution of the corporate social responsibility concept are manifested in the development of its content, expansion, and penetration into all areas of entrepreneurial activity. The companies' social responsibility is manifested in the following forms: a responsible manufacturer of goods and services; responsible participant in social and labour relations (personnel management based on the social responsibility principles); responsible participant in socio-economic and political relations with the state; responsible business partner, etc.

2. "Supply Chain" is a comprehensive activity to provide the production process with all the necessary components, to coordinate all multidirectional flows of resources in a single logical chain. Socially responsible supply chain management, which covers all the company's activities, occupies an important place in the CSR system and thus it is aimed at ensuring its balanced development and increasing competitiveness both in the domestic and international markets. The socially responsible supply chain management is understood as such an approach when a company develops the entire value chain based on the public interests and needs of potential and real consumers. This concept means that the company uses only environmentally sustainable materials and technologies at all stages of the production cycle, implements the social responsibility principles in its internal and external activities, and is a reliable business partner with a good reputation.

3. Assessing the social responsibility level in supply chain management is an important prerequisite for the further implementation of the corporate social responsibility concept, thus ensuring the companies' balanced development. We proposed the calculation of the integral index for assessing the SR SCM level basing on a system of indicators: a responsible manufacturer of goods and services; a responsible business partner; a responsible participant in social and labour relations; a responsible participant in socio-economic and political relations with the state. The methodological approaches to assessing SR SCM were proposed based on a subscript, which integrates the following indexes: index of compliance of raw materials, other materials, and accessory parts to the environmental standards; index of environmental sustainability of transport support for the supply chain; and index of compliance of products (services) with the international quality standards.

4. The formation of global value chains (GVCs), as well as global supply chains (GSCs), occurs under the influence of globalization, informatization, virtualization, and socialization. The global supply chain is a sequence of three main stages: the first – an upstream, is accumulation of necessary resources; the second is the production process itself; and the third stage is a downstream flow that is the sale of manufactured products to wholesalers or end consumers. The main difficulty in

developing a global chain is that each of these stages becomes highly variable and fragmented. In addition, an important imperative of this millennium is the spread of social responsibility in the GVC and GSC. The companies' social responsibility is manifested in the following main forms: adopting and promulgating social, ethical and other codes; introducing new accounting and reporting standards in the field of CSR; compiling regular social reports that are subject to monitoring by special organizations; building a "green" business using the European approaches and instruments; increasing production of environmentally sustainable products; introducing mandatory social and environmental labelling of goods, for example: "eco-goods", "made from waste", etc.); making social investments; transparency, informing consumers about goods and services, etc.

5. The concept of developing a socially responsible supply chain assumes that the implementation of the social responsibility principles occurs not merely in key processes (actually, in supply), but also begins from the very beginning - selecting a product and determining its qualities, and ends with a product delivery to the end-consumer. Sustainability is a key trend in the development of business and society in the 21st century. At the present stage of development, the principle of "green supply chains" is being actualized, which is manifested through the formation of social responsibility along the entire vertical framework of production and the formation of vertical diversification. The main objective of this chain is to create a balance between the activities of the corporation, profit, the environment, and humankind. The socially responsible, "green" business involves: free access to all information regarding environmental sustainability of products; consumer confidence in the proposed environmental materials; advising the consumers at any stage.

6. In the modern context, the companies' commitment to the principles of social responsibility is not just important, it is extremely necessary. A higher level of manifestation of a company's social responsibility is the situation when the company cares not only about its internal activities, but also develops its entire supply chain based on the social responsibility principles. Thus, laying down requirements for all its possible counterparties, the company repeatedly expands its socially responsible

impact upon the business environment on a global scale. Forming a diverse system of supply chains based on the social responsibility principles involves monitoring for compliance of the entire supply chain with ethical and environmental principles. All suppliers go through an evaluation process, which identifies the companies at risk of reduced productivity. Thus, only those suppliers that share the values of a leading company and commit themselves to fulfil them are allowed to take part in the supply chain. At the same time, one of the key components of developing a company's value chain is ensuring labour safety for employees.

7. Of particular importance is the introduction of social responsibility into the activities of companies that are engaged in the production of industrial climate control equipment and equipment for industrial water use. Belimo is a company that is engaged in the production of industrial climate control equipment and equipment for industrial water use. Belimo demands its suppliers to sign the "The Code of Conduct" declaration agreement, which obliges them to comply with the basic conditions of social responsibility, compliance with business standards, and environmental standards. CAREL requires its partners to comply with a large group of rules and standards within its Code of Ethics and the following policies: Diversity Policy, Human Rights Policy, Environmental Policy, Health Care, and Safety at Work. Relations in the supply sector are based on compliance with laws and regulations in force in the country on labour, human rights, health and safety, environmental protection, and anti-corruption legislation, etc.

8. The thesis paper defines the purpose, objectives, tasks, key principles (such as consistency, comprehensiveness, adaptability, scientific validation, external conditionality), functional units (such as legal support, organizational support, economic support, and socio-economic support), the main areas of action (such as implementing the international standards for products' quality and international environmental management systems, expanding productive employment opportunities, ensuring decent pay and working conditions for the population in the region where the company operates, development of the company's social infrastructure), and socio-economic results (such as increasing the companies'

competitiveness, implementing CSR values, ensuring balanced development of companies in the medium and long term, increasing sales of high-quality and environmentally sustainable products) the mechanisms of socially responsible supply chain management in companies.

9. The mechanism of socially responsible supply chain management in the company, taking into account the characteristics of the ACE market, was proposed. This mechanism includes the instruments for implementing the values of social responsibility in companies, lays the further prerequisites for increasing the efficiency of procurement activities based on the social responsibility principles in the conditions of socio-economic instability, the significant impact of crisis events, and large amount of internal and external risks and threats. In order to implement the development strategy based on the social responsibility principles for companies, the following balanced scorecard was proposed: **finance** (*objectives* - achieving a stable financial condition based on the principles of active marketing and social responsibility; *indicators* - high level of profitability, turnover growth), **customers** (*objectives* - satisfaction diversified consumer needs, supply of environmental products, socially responsible advertising of products; *indicators* - the percentage of customers' refusals from cooperation, percentage of regular customers (more than 2 transactions; more than 1 year of cooperation), **personnel** (*objectives* - staff development, staff motivation, implementation of the principles of trust, transparency, protection of social interests; *indicators* - amount and share of staff development costs, amount and share of expenses for staff incentives), **internal business processes** (*objectives* - accelerating and increasing the efficiency of all internal processes; *indicators* - accelerating of the operations servicing, reducing the time for placing orders, reducing spoilage and waste, costs for the installation, maintenance and repair of pollution control equipment).

IV SCIENTIFIC AND SCIENTIFIC AND APPLIED RESULTS:

A. Scientific results

1. The mechanism of introducing the concept of social responsibility into supply chain management through the solution of the following tasks has been substantiated:

- improvement of management practice, taking into account the principles of social responsibility;
- development of a mechanism for the implementation of the principles of "sustainability" in supply chain management;
- improving the methodology for assessing the level of social responsibility in individual companies.

2. A comprehensive assessment and analysis of modern trends in the development of socially responsible supply chain management in global business has been made.

B. Scientific and applied results.

1. Proposed methodological approaches to assessing the level of social responsibility in the management of supply chains of a company, which involves assessing socially responsible supply chain management (SR SCM) based on an integral assessment of the system of indicators within the formed supply chains: the index of compliance of supplied raw materials, materials, components, environmental standards; the environmental friendliness index of transport support for the supply chain; index of conformity of products to international quality standards.

2. A methodology for assessing the success of the company's social responsibility policy and its supply chains has been developed on the basis of the Balanced Scorecard (BSC), which can be adapted by each company for its own characteristics and specific goals. The use of this system involves the allocation of Key Performance Indicators in the following main areas: finance, customers, personnel, internal business processes.

C. Proposals:

1. The adoption of the concept of social responsibility should become the main idea that permeates the main goals of each company - from strategy formation to decision-making in the operational activities of companies.

2. The goal of management becomes not only building a supply chain based on social responsibility, but also a consistent assessment of the success of the entire chain.

3. The use of Key Performance Indicators in the BSC system will allow monitoring the level of achievement of social responsibility goals in the company's activities.

V LIST OF PUBLISHED WORKS ON THE THEME OF DISSERTATION

The articles in the INDEXED AND REFERENCED international periodicals publications (Web of Science)

1. Kalenyuk I., Tsimbal L., **Aslanzade R.** Greening the Supply Chain in Corporate Responsibility *Management Theory and Studies for Rural Business and Infrastructure Development*. eISSN 2345-0355. 2019. Vol. 41. No. 4: 501-510. Article DOI: <https://doi.org/10.15544/mts.2019.40> (Web of Sciences)
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VI DECLARATION OF ORIGINALITY AND ASSURANCE

of dissertation work

DECLARATION OF ORIGINALITY AND ASSURANCE

of dissertation work

In connection with the procedure for acquiring the educational and scientific degree "Doctor", I, Rustam Aslanzade, a PhD candidate, declare that my thesis, which I have worked on "SOCIALLY RESPONSIBLE SUPPLY CHAINS MANAGEMENT, "In the field of higher education 3. Social, economic and legal sciences, professional field 3.8. "Economics", scientific specialty "Economics and Management (Industry)" contains original results and contributions, and are not borrowed from studies and publications in which the author does not participate.

The results that have been received, described and published by other individuals and legal entities are quoted in the report and bibliography in an unambiguous manner.

To the best of my knowledge and belief, it contains no material previously published or written by another person nor does it include contents that are falsified or fabricated.

The results obtained, described and / or published by other authors are duly and in detail described in the bibliography.

The dissertation thesis I have developed has not been presented in any other educational or scientific institution to obtain an educational or scientific degree "Doctor" or a Ph.D. "Science" degree.

DATE

Svishtov

Rustam Aslanzade

