

THESIS

Course code: FE306E

Candidate number: 1

Institutionalization of CO2 Emissions Reduction Policy in Russian and Norwegian Rail Passenger Transportation Sectors: Comparative Study

Date: 15.05.2016

Total number of pages: 88

Abstract

As widely known the environmental concerns are of great importance nowadays and all the developing and developed countries are obliged to follow the environmental regulations exerted by the international authorities in field of environment conservation. Russia stands along with the other countries fighting the climate change and working on the environmental policies to reduce water and air pollution. But pollution by road transport still remains one of the main issues. The increasing tendency of using more road passenger transport and less electric has been noticed in Russia. At the same time, the opposite has been revealed in Norway. Norway has been working on green policy in rail sector for a long time, and it has been able to raise the demand for rail passenger transport with success.

This phenomenon seemed to me to be paradoxical as both the countries are obliged with the similar environmental regulations in rail transport sector which Norwegian and Russian governments spread among the rail companies. In my research study I have made an attempt to explain this phenomenon. I focused my study on the comparison where I explored how the main monopolistic Russian and Norwegian rail companies implement their conformation to the dominant environmental regulations set by the higher authorities. I came up with the conclusion that the difference in the development of Norwegian and Russian rail transport sector can be explained with the different strategic responses to the institutional environment by the companies that cause different outcomes of developing rail transport sectors.

Key words: conformation process, rail passenger sector, strategic responses to institutional environment, environmental laws, stakeholder engagement

Summary

Despite the fact that Russia and Norway both have the similar environmental regulations on CO2 emissions reduction in the rail transport sectors, there is still a significant difference in the development of these sectors correspondingly. Russia still has a raising tendency in using road transport while Norway continues to raise a demand for electric transport with success. To find a reasonable explanation for this phenomenon I explore how the norm system in the area of CO2 emissions reduction is embedded within each sector by the main monopolistic passenger companies – RZD and NSB Companies, and what the action system represents in its turn. The research question is: “How is the policy on CO2 emissions reduction institutionalized in the Russian and Norwegian rail passenger transportation sectors?”

The theoretical framework, first, contains the institutional theory which includes the theory of different strategic responses to the institutional environment and the theory of institutional isomorphism; and second, the stakeholder theory. To conduct the research I have implemented the interviews with the representatives of NSB and RZD Companies and studied the Norwegian and Russian National documents on sustainable development in the area of CO2 emissions reduction for the electric rail transport sector as well as annual/sustainability reports of the companies.

The analysis has shown that the conformation process is the integral part within operations of both companies. Under the coercive mechanism of higher authorities the companies become isomorphic and comply with the dominant environmental laws in order to get legitimacy and gain more customers. Both companies claim themselves being sustainability oriented. However, I have discovered that having different strategic responses to the institutional environment NSB passively conforms and obedient to the norm system while RZD avoids conformation with the concealment tactics. I also figure out that both companies have an influence from such stakeholders as consumers and the media where Russian consumers reflected some negative feedback about Russian railways.

Preface

The master thesis is the mandatory part which is final for the graduation 2016 from Bodø Graduate School of Business on the Sustainable Management program. It amounts to 30 credits.

I am very grateful for the necessary guidance from my supervisor Elena Dybtsyna for her help on all the stages of writing my master thesis. Her contribution to my research was significant in giving the valuable advices and feedback that allowed me to reveal the drawbacks and understand the direction of the work. Thank you for your precious comments, time and assistance!

I also would like to say special thanks to all the professors on the Sustainable Management program at Nord University who gave me an important knowledge and inspiration for writing this master thesis. I have got a precious high-quality theoretical knowledge, research experience and team work skills.

I am also grateful to the professors of Baltic State Technical University who gave me a deeper understanding about the sustainable development that propelled the choice of my future career. And separate thanks to Marina Volkova, Evgeniy Aleksandrov and Irina Pylypiv for organizing business practices in Saint-Petersburg.

I am grateful to NSB and RZD Companies which made their own contribution to my research study by providing me with valuable information. They were the main part of my research and without their support the research study would not be able to be finished. Thank you very much!

Finally, I am thankful to the numerous researchers whose works were the basis for my research study. I have got valuable knowledge during writing my master thesis as well. And I hope that I have made my little contribution to the existing theories, and my study can be continued by other researchers in the future.

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1. Introduction

1.1. Research overview

It is widely known that the environmental concerns are of great importance nowadays. At the present moment, Russia stands along with the other countries fighting the climate change and working on the environmental policies to reduce water and air pollution. In most areas of Russia, the national limits of pollution are higher than it is supposed to be (Eurostat Statistics Explained, 2015). One of the main reasons of increasing environmental pollution is a raising popularity of using road transport.

Transport sector is facing many internal challenges nowadays due to the population growth and increasing demand for transport services. Lots of literature has been written according to the greening of transport sector in Russia including reports from the international environmental conferences and forums. One of the latest documents was prepared by Oh and Gwilliam (2013) where the authors made a review of the urban transport sector in the Russian federation with a focus on transition to long-term sustainability. After the United Nations Conference on Sustainable Development, which took place in 2012, the report on implementing the principles of sustainable development in the Russian Federation was prepared in Moscow. The Transport Learning Week in 2006 was followed by the applying the Green Strategy of the Russian Federation with the focus on transportation sector. Most countries concern about the environmental pollution by road transport and aim their policies on reducing greenhouse gas emissions into the atmosphere. This topic has been discussed recently on the International Transport Forum 2010 and was finalized also by the report. It shows that the issue of greening the transport sector is of great importance for most of the countries.

Road transport is considered to be the most environmental polluter which is strongly dependent on oil consumption. According to Eurostat Statistics the transport sector in Russia consumes 12% of energy (see Figure 1 below), while in all countries of the European Union this number is 33% on the moment of 2009.

While the electric transport is considered to be the most environmentally friendly, there has been noticed a tendency over the last 10-15 years in Russia that the number of using road transport has been steadily increasing. The electric transport can hardly meet a competition with the alternative modes of transport. Due to the lack of investments during dramatic geopolitical

and socioeconomic changes in Russia and some nearby countries in the late 20ies, the electric transport in Russia faced the lack of upgrades in fixed assets (Bobylev and Perelet, 2013).

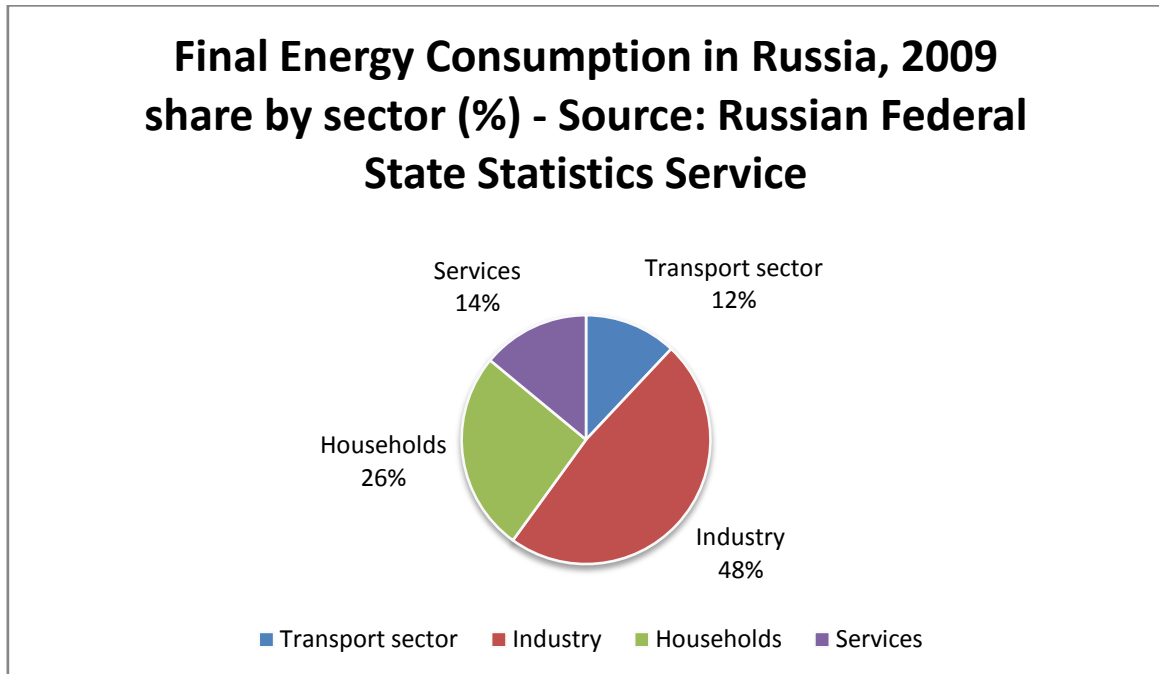


Figure 1. “Final Energy Consumption in Russia, 2009 share by sector (%)”. Source: Russian Federal State Statistics Service

This in its turn has led to the obsolescence of the rolling stock and therefore caused inability to meet the requirements of the time and to be enough strong competitor in passenger transportation sector with other modes of transport. According to the data of the Russian Federal State Statistics Service, the usage of urban electric transport by passengers has been decreased since 1995 up to 2011 on 6,5 %. Between 2014 and 2015 it has been noticed an upturn of using road passenger transport on 0,7 % while at the same time the drop in usage of electric passenger transport on 0,6 % (Russian Federal State Statistics Service, 2015). In such circumstances the Russian government is currently working on the development of rail passenger transportation sector in Russia with making the focus on the environmental protection (Oh and Gwilliam, 2013).

Norway has been working on green transport policy for a long time and the current indications of using electric transport are quite satisfactory if to compare with Russia. According to the Norwegian National Transport Plan for the period 2014-2023, the greenhouse gas

emissions from the transport sector were remaining quiet stable from 2007 while at the same time the volume of transport modes was increased. One of the main Norwegian rail passenger and freight transportation companies NSB Company highlights in its annual report 2014 that the investments has been done into the fixed assets in passenger transportation sector that therefore caused the increased demand for electric transport. To raise the competitiveness of electric transport in Norway the government is aiming its policy at improving the infrastructure. In order to meet the future demand Norway is working on the efficient use of space by promoting sustainable mobility and public transport in urban areas.

Eichhammer (2015) presents in his analysis of energy efficiency trends in the EU that energy consumption from transport sector has been decreasing since 2007 almost in all European countries besides those who were influenced by the world economic crisis. The number of usage road transport in Norway has not been changed since 2007. Also Norway has got regular improvement of energy efficiency in transport sector on 1% each year which is the average indicator among the countries of European Union.

Some research has been done on the development of rail passenger transportation sector in Russia and Scandinavian countries in terms of eco-efficiency. Baybikova and Zaboev (2014) analyzed the current state of rail transport in the Single Economic Space of Belarus, Kazakhstan and Russia (the SES countries) by defining the main challenges to the creation of a common transport market within each other and contemplating the rail services in terms of competition with other modes of transportation. The researcher Kageson (2009) considered environmental aspects of inter-city passenger transport in the OECD/ITF Joint Transport Research Centre Discussion Paper in 2009. This report calculates the effect on emissions from building a new high speed link of rail services in order to mitigate climate change. Andersson and Lucaszewicz (2006) from KTH Railway Group analyzed energy consumption and related air pollution for Scandinavian electric passenger trains in Sweden, Denmark and Norway by making energy measurements in regular train operations in 2006.

As many researchers have already implemented various studies on the environmental development of electric transport sector in Russia and Scandinavian countries, I would like to focus my study on the comparison of these sectors - Norway and Russia. In my research I compare the normative requirements for sustainable development with a focus on CO2 emissions reduction policy. I consider the normative regulations for implementation by the companies on two levels – regulations applied the Ministry of Transport and Communications and regulations

applied by the Ministry of the Environment. Thus, I explore how these normative regulations are realized in Russia and Norway by the main monopolistic rail passenger and freight companies – JSC “Russian Railways” (RZD) and NSB Company from the NSB Group.

In my research I use an institutional theory in order to understand how these companies apply the environmental laws in reality and follow it in accordance with the governmental strategic plans for sustainable development in transport sector. I study if the organizations conform to the requirements for CO2 emissions reduction policy or not and how they do it. There are different ways of conformation which are ranging from passive conformity, compromise and avoidance to defiance and proactive manipulation. The conformation cannot be necessary be implemented in a perfect way but the organizations may respond to the regulatory structures under comfortable consequences for them depending on a situation (Oliver, 1991). I also study what kinds of external pressures may be applied on the conformation process by using the theory of institutional isomorphism. Thus, as the conformation process cannot be done by the organizations in a perfect way, I also use a stakeholder theory in my research in order to understand what kinds of interested groups may affect the conformation process. Many stakeholders are involved in the elaboration process of norm system for sustainable development requirements and want their interests to be represented in there.

My research study contains seven main parts which are introduction, theoretical framework, methodological framework, empirical part, analysis and conclusion. The structure of the study reflects the competence of the research by implementing the consequent steps. First, the task of the research is to show the relevance of the chosen topic, importance of the problem and popularity among other researches. Second, it is to embed my study into the correspondent theories and show its implication. Third, it is to apply the appropriate methodologies in order to process primary and secondary data. Then, it is important to process the received results, implement the analysis and to make the conclusion based on the findings.

1.2. Problem Statement

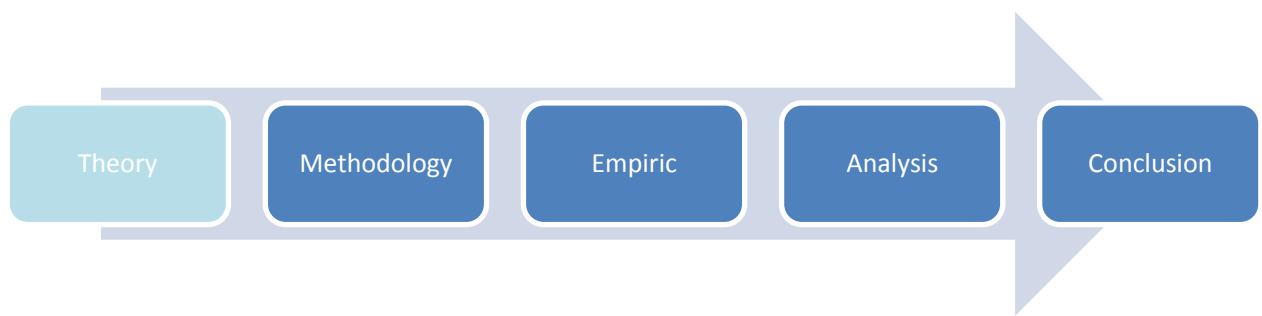
The nowadays literature on sustainable development of railway transport sector in Russia and Norway shows the differences in these two countries. Russia shows the constant decreasing tendency among the usage of electric transport over the last decade while in Norway these indicators have been remaining quite stable since 2007. At the present moment, both countries have the correspondent documents with long-term strategies which were developed by the government and the Ministry of Transport and Communications, and aimed at sustainable development of transport sectors to raise a demand for the electric transport.

Thus, I focus my research study on the comparison of two rail passenger transport sectors in order to define how the norm system is embedded within each sector by the main monopolistic passenger companies and what the action system represents in its turn. The key task of my research is to explore the difference in the implementation of normative regulations on sustainable development in the area of CO2 emissions reduction in Russian and Norwegian rail passenger transport sector.

In order to make the analysis based on the comparison of two rail transport systems and find the reasonable explanation to this phenomenon, I posed the research question:

<p><i>How is the policy on CO2 emissions reduction institutionalized in the Russian and Norwegian rail passenger transportation sectors?</i></p>

In my study I explore what methods, techniques or/and new technologies the companies apply in order to contribute to the reduction of CO2 emissions into the atmosphere from their operations. During my research study I find out the nature of the differences in the current state of electric transport sector development in both countries, figure out the challenges that lay down in the Russian rail sector and define how Norwegian rail system overcomes its challenges based on the best practices and contributes to the improvement of electric transport sector.



2. Theoretical Framework

The theoretical framework provides the overview of the theories that are used in order to address the problem statement and answer the research question. In this part I show the connection of existing knowledge based on the institutional and stakeholder theories that can be applied in practice and to be used for my research study.

2.1. The institutional theory

2.1.1. Institutional theory definition

According to Scott W.R. Institutional theory is "A widely accepted theoretical posture that emphasizes rational myths, isomorphism, and legitimacy" (Scott, 2008). The focus of institutional theory lies in more deep and resilient aspects of social structure. Institutional theory is about how the structures including different rules, norms, schemes, routines are becoming authoritative to guide social behavior (Scott, 2004). This theory explains how all these elements are appeared and adopted over space and time; how they are declined and disused.

Scott W.R. defines four sociological formulations of institutional theory.

The first one, he considers institutionalization as *process of instilling value*. This explanation is associated with one of the earliest works of Phillip Selznick and his students in creating the model of institutional theory (Scott, 1987: 51 -68). He considers that the organizational structure is an adaptive vehicle and that it is shaped by the characteristics and commitments of participants as well as external environment (Scott, 1987: 494). Thus, the institutionalization is viewed as an adaptive process – “to institutionalize means to infuse with value beyond the technical requirements of the task at hand” (Selznick, 1957: 17). Selznick also pointed on the historical changes of organizations over time – the evolution of the living form which is adapted within the external environment. This feature with the emphasis on the adaptive change he applied in his analysis of the Tennessee Valley Authority public corporation. But his

primary emphasis on institutionalization was the process of instilling value, supplying the intrinsic worth to a process or structure that contributes to the stability which is persistence of the structure over the time.

The second formulation is about institutionalization as a *process of creating reality*. “This view was developed in the work of Peter Berger in the sociology of knowledge where in its turn the work was underpinned by the philosophy of German idealists and phenomenologists Dilthey and Husserl and then significantly formed by the views of Alfred Schutz” (Scott, 1987: 495). Berger coauthored with Luckmann were trying to give the explanation to the institutionalization by answering the question: “What is the nature and origin of social order?” Thus, in their common work they emphasized that the social order is constructed by humans and it is shaped by social reality which in its turn is dependent on social interaction (Berger and Luckmann, 1967: 52). They pointed out that social order is only about human production. The social order is produced during the constant process of human externalization. Social order appears when all individuals take action, they see it in their own point of view, and then they interpret it and share with others. Thus, these interpretations form the rules, so the next time the actors could act in the same fashion. Thus, the institutionalization is about when actions are repeated over the time and are assigned similar meanings by individuals. Berger and Luckmann defined that “Institutionalization occurs whenever there is a reciprocal typification of habitualized actions by types of actors” (1967: 54).

The third formulation was also developed by the ideas of Peter Berger and this is about *institutional systems as a class of elements*. This formulation is based on the idea that the organizational structure exists and/or develops itself through the institutionalized belief systems which form a certain class of elements. Thus, Meyer and Rowan (1977) point out that the organizational forms develop themselves due to the existence of elaborated “rational myths” or shared belief systems. They also emphasize the existence of a variety of sources or loci of “rationalized and impersonal prescriptions that identify various social purposes” and “specify in a rulelike way the appropriate means” to follow them (Meyer and Rowan, 1977: 343). However, there were a number of changes in the emphasis of the main idea of this formulation. First, it is about the reconceptualization of significant features of organizational environments. The new formulation points at “the role played by the cultural elements such as symbols, cognitive systems, normative beliefs and the sources of such symbols” (Scott and Meyer, 1983: 140, 149).

Second, the organizations do not have to conform to the rules and requirements set by the external environment because they constitute the reality but they conform to because they receive some kind of reward instead such as increased legitimacy or resources (Meyer and Rowan, 1977). Thus, the scholars are looking other types of processes that stimulate the organizations to conform the rules. The most famous theory is the institutional isomorphism theory by DiMaggio and Powell (1983) where they differentiate three processes that lead to conformity – coercive, mimetic and normative. The third, Meyer and Rowan emphasized the transition from a conception of the institutional environment to one of multiple institutional environments (DiMaggio and Powell, 1983; Meyer and Scott, 1983). And the last one is about the idea that the symbolic systems became more rationalized by themselves – that all the previous old systems were replaced by more rational new systems – professions, systems of law and other.

And the forth formulation of institutional theory is about the *institutions as distinct societal spheres*. This formulation covers the idea of existed social institutions in general sociology based on the belief systems. These social institutions refer to the social belief systems which in its turn refer to the different functional roles within these societal systems such as religion, work, politics, family. In all definitions, these social institutions are seen as symbolic – cognitive and normative systems. The main determining feature of these systems is a strong role of persistence and stability (Hughes, 1939).

In my research I tend to use the formulation of institutionalization as a set of elements. This formulation is about that the organizational structures are formed due to the existence of shared belief systems which constitute a class of elements for organizations to follow (Meyer and Rowan, 1997). These elements spread from one society to another by developing the belief systems that the organizations are to follow. The institutional environment is very complex as it may contain the regulatory structures, laws, regulations, ideologies, professions and other (Scott, 1987). Thus, the organizations may respond to the institutions in very different ways. This formulation of the term institutionalization helps me to explore if the organizations conform to the external regulations set by the governmental structures or not and how they implement it – to see what is the type of conformation they are about to use. The type of conformation is basically connected with the level of conformation which may range from the passive conformity, compromise and avoidance to defiance and proactive manipulation. The conformation cannot be necessary be implemented in a perfect way but the organizations may respond to the regulatory

structures under comfortable consequences for them depending on a situation (Oliver, 1991). Thus, the term “institutionalization” in my research refers to the process by which the organizations act to conform to the regulatory structures of institutions. I chose this definition as a basis as it completely supports my research in terms of studying the differences in the norm and action systems.

This definition also makes less emphasis on the institutionalization as a distinctive process and points out that the organizations are not necessary to conform the belief systems because they form the reality but because they may get an advantage from the conformation to the external regulations by raising their level of legitimacy or getting the necessary resources or something else – which means that to conform to the external regulations is of organizations’ interest of themselves (Meyer and Rowan, 1977). Thus, the scientists of institutional theory look for other processes that may affect the organizations to conformation. And the best known theory for such processes was offered by the DiMaggio and Powell (1983) in their institutional isomorphism theory which I will describe in more details later in this part of my master thesis.

2.1.2. Strategic responses to institutional processes

C. Oliver (1991) has brought his theory with different strategic responses to the institutional processes. He assumed that there are a potential number of dimensions in the organizational behavior how they respond to the pressures from the institutional environment when the last ones force them to conform (See the Table below).

	<i>Strategies</i>	<i>Tactics</i>
1	Acquiesce	Habit, imitate, comply
2	Compromise	Balance, pacify, bargain
3	Avoid	Conceal, buffer, escape
4	Defy	Dismiss, challenge, attack
5	Manipulate	Co-opt, influence, control

Table 1. Strategic responses to institutional processes (Oliver, 1991).

1. Acquiesce

The first type of conformation provides the organizations advanced legitimacy and social support. It assumes that the organization entirely accepts all the external pressure requirements and follows them. This type of conformation might have three forms: habit, imitate, and comply.

The habit tactic assumes that the organization might follow the rules and values of the institutional environment in case if it is not aware about the influence from the higher power and thus cannot respond to it strategically or it just takes the adherence to the rules for granted. In this situation, the organizations blindly repeat the actions that are historically set within the institutional environment and the organization is not willing to change them. The imitate tactic assumes that the organization follows the organizational models that are defined in the institutional environment. They can do it on purpose or not. This tactic is very similar to the mimetic isomorphism theory of DiMaggio and Powell (1983). They can imitate the organizations that are popular with their success on the market or they can follow the advices of professional business consultants. And the comply tactic assumes that the organization consciously follow all the requirements of external pressures in institutional environment. It in its turn develops structural or administrative complexity of organizational processes in order to respond to the external complexity of the environment (Meyer, Scott and Strang, 1987). This tactic is considered to be more active then than habit and imitation because the organization accepting the external pressure expects its own privileges from the society in the form of resources or other benefits (DiMaggio, 1988; Meyer & Rowan, 1983; Pfeffer & Salancik, 1978).

2. Compromise

Some organizations may consider the pure acceptance of the regulations set by the higher power to be unworkable. Sometimes organizations have conflicts with the higher authorities in the institutional environment because of the discrepancies among the strategic goals of organizations and the demands of institutions. Then the organizations may balance, pacify or bargain.

“From a strategic perspective, balance can be defined as a tactical response to institutional processes” (Rowan, 1982). He stated that it is important to balance the structural changes introduced by the higher authorities to follow. This tactic is about to manage a verity of demands from different constituents of institutional environment; to achieve an accordance of

interests among different stakeholders. The organization may have the pacify tactic when it also strives to gain conformity taking into account the interests of different institutional constituents. In this situation the organization does not resist the external pressures that much but it tries to appease them. And the organizations may bargain with the institutional pressures to convince them to make the concessions to lower institutional demands.

3. Avoidance

Some organizations do not conform to the institutional pressures and they hide it. They may conceal that they do not conform by disguising their nonconformity. Some organizations do it by setting the rules and developing procedures in order to hide that they are not going to follow the requirements of external pressures. The organizations may employ different activities which are not the part of their everyday business operations if they expect inspections of the higher authorities. In this strategic response concealment is an apparent conformity, not real (Scott, 1983b; Zucker, 1983). The organizations may also buffer themselves from the institutional pressures by reducing the external inspections and evaluations by higher authorities. This may be achieved by partly removing its internal technical activities from demonstrating it to the external institutions. This is the way how the organizations may conserve their legitimacy. This may benefit the organizations if they want to maintain autonomy, protect the company from the external impact and improve the efficiency of operations. The organizations may escape from the defined norms and regulations set by the higher power. This is the most dramatic tactic of avoidance when the organization is willing to change its objectives and procedures in order to avoid the conformity.

4. Defiance

Defiance is the strongest resilience strategic response to the institutional pressures. It may have three forms which are dismissal, challenge and attack. The organizations may dismiss the norms and regulations if they feel that the threat from the external environment in case of nonconformity is very low and it will not affect company's operations. The organizations may also ignore the regulations if they are in conflict with the organization's objectives. The organizations may challenge; which is more aggressive tactic in defiance responses than dismissal. In this case the organizations may act against external pressures and rebel. The organizations may also strengthen their rebellion by making demonstrations showing their

organizational rationality and integrity. And the organizations may also attack the external power. That means that the organizations may be willing to assault the existing regulations and external pressures that have impact on them.

5. Manipulation

Compared to all others strategic responses a manipulation is the most active strategic response as the organizations who manipulate are willing to change entirely the actions that the external pressures expect to gain. This strategic response has an opportunistic character as the organizations may control and influence the sources that have unwanted impact on the organization's policies. The manipulation has three forms as well which are co-opt, influence, control. For example, the organizations may co-opt the constituent of higher power by inviting him to the team of top managers in the company. They may convince to participate in the internal projects and with this gain their legitimacy. Another manipulation form is influence; when the organizations may cause changes in existing belief systems within society. Thus, the manipulation tactic assumes the strong influence on the external pressures by convincing them to provide changes in the existing norm system or historically set practices. And the third tactic of manipulation is organization's controls; which is about setting a power over the external pressures and make them to be under organization's control.

2.1.3. Institutions: classification of definition

I have decided that it is relevant for me to follow the term "institution" which is of high importance in my research because there are different interpretations of this term and it is relevant for me to understand it correctly. The term "institution" is widely used in various social sciences and has substantial differences depending on the applied area of knowledge (Hodgson, 2006: 1). The concept of "institution" comes from the Latin "Institutum", which means "the establishment, institution, custom".

Two main theoretical interpretations of institutions can be differentiated. The first one focuses that the institute is a kind of aggregate of rules, regulations, statutes and traditions, rooted in society that organize and regulate the relationship between people and their behavior. North (1997) defines the institutions as the "rules of the game" in social environment or, more formally, the man-restrictive framework that organizes the relationship between people. It notes that the institutions are not only a source of "motivations of human interaction" in all major sectors of society, structured daily people's lives, but they also reflect the nature of social

development. Thus, in accordance with this concept the institutions can be divided into formal and informal. Formal institutions are those created by humans (the constitution of a country, for example), informal those that have developed in the course of social development (generally accepted conventions and customs) (North, 1997: 17-19). It is worth to add a provision that the institutions are not only the rules, but also mechanisms to ensure the implementation of these rules, and norms of behavior (North, 1993: 73).

According to another theoretical definition of institutions they are primarily considered as the associations, organizations, and institutions. Thus, according to Weber (1990), the institution is a form of social association in which social behavior is defined by the regulations. Weber (1990: 536) further states that the behavior of an individual which is the member of this association is rationally ordered and focused on established regulations. The individuals are "empirically considered to be" compelled "to participate in common activities that are constitutive for the community." Compliance with precepts is provided by the apparatus of coercion, and the individual's membership in the community is destined to his birth and upbringing but not a voluntary entry. But at the same time Weber points out that not every social formation, participation in which is predetermined by birth and upbringing, can be called the Institute (Weber, 1990: 536-537).

Studying the correspondence of norms and actions in my research work I tend to the interpretation of the institutes as the complex of norms and regulations. I consider these institutions to be the main structural components of political systems in my research study. Thus, the main aim of creation of institutions is the possibility to aggregate the social interests, to regulate the social relations and provide a political stability.

There is a large layer of social phenomenon that cannot be included into one of these definitions of institutes. Thus, in this sense, the rules and regulations as the institutes and the interpretation of the institutions as the organizations are complementary. It also is proposed to consider the norms, rules and traditions interpretation as a more simple and primary institutions rather than the organizations interpretations that are characterized as more complex (Irhin, 2014). As these two interpretations of institutions are absolutely different in their nature, North (1997) proposed to differentiate the institutions and organizations as it is insufficient to determine two equivalent, but completely different phenomenon thereby mixing them.

Thus, such a strong interdependence and interaction between institutions and organizations to a large extent explains the wide and indefinite interpretation of institutions. However, these concepts cannot be mixed. The fact that these two phenomena are most often found as a whole, does not mean that they are impossible being separated and studied separately.

2.1.4. New institutional theory

For my research I have chosen to use a new institutional theory as the basis as I use norms and regulations in the form of institutions which are the engine to the actions made by organizations; the norms system has a very close connection to the results of successful or unsuccessful implementation of regulations by organizations – their conformity to the rules and intention to get legitimacy. Thus, I take the starting point from the ideas of Meyer and Scott (1983) about the assimilation of dominant normatively proven ways of structure by organizations because I consider these ideas to be relevant for the studied phenomenon to explain the realization of norms and actions system in terms of CO2 emissions reduction.

Meyer and Scott (1983) define the new institutionalism with the emerging perspective in the organization theory and sociology. They explain that in the new institutional theory, the organizational structure assimilates dominant, normative proven ways of organization. Organizations, particularly those whose output product is difficult to measure (such as education or health), are forced to follow regulatory requirements, or at least they have to follow to it in order to obtain legitimacy. In order to survive they have to conform to the rules and requirements that prevail in the environment. According to the new institutional theory, these regulatory requirements hardly relate to technical efficiency. Organizations do not tend to efficiency but to the institutional isomorphism with the prevailing regulatory standards of appropriate structures. When at the same time the structures perform "the ceremonial" role by presenting the competence and value of the organization as a social actor (institutional isomorphism theory). It is expected that the world of organizations is divided into two sectors: a competitive sector in which the organization survival depends on its effectiveness, and institutional sector, in which survival depends on institutional isomorphism with the approved methods of organization (Meyer and Scott., 1983).

Thus, the main impact I have got from the theory of institutional isomorphism offered by DiMaggio and Powell (1991). They explain what makes the organizations to be so similar to each other. They claim that the mover of rationalization and bureaucratization has shifted from

the sphere of the competitive market to the spheres of the state and the professions. When the field is formed, consisting of a set of organizations, there is a kind of paradox: rational actors trying to change their own organizations make them more and more similar.

I consider this theory to be relevant for my research study as I also study what kinds of pressure may be applied on conformation process to enforce the organizations to follow the external regulations. The institutional isomorphism theory contemplates how the organizations are being forced by the dependent organizational structures to conform to regulations and how they act for their survival and obtaining legitimacy. Thus, the research study may contribute to the development of one of the forms of institutional isomorphism theory.

According to DiMaggio and Powell (1991), "the organizational field" in any sphere of management forms a kind of matrix-hierarchy of inter-organizational relations. This matrix-hierarchy arises from the interdependence of organizations and structuring of social space which contains the distribution of components on dominant positions and coalitions, information exchange, and the basics of understanding for the participants of this field. Under these conditions, the phenomenon of "isomorphism" appears in the organizational field of certain decisions, which is based on three mechanisms: *coercive*, *mimetic* and *normative*.

Coercive isomorphism is the result of both formal and non-formal pressure on organizations by other ones which they depend on, as well as cultural expectations in a society where these organizations operate. Such pressure may be perceived as strong force, persuasion or invitations to collude. In some circumstances, organizational changes are the direct response to the government's regulations: manufacturers introduce new emission control technologies against harmful substances in order to comply with the legislation on the environment; non-profit organizations maintain accounts, and hire accountants to comply with the requirements of the tax legislation; organizations hire employees on the basis of positive discrimination in order to avoid accusation in discrimination. Schools place children with disabilities on the common flow of students and hire teachers for Special Education, they stimulate the emergence of parental committees and administrators which are able to get along with them, as well as introduce school curricula that are consistent with national standards (Meyer et al., 1981). Such changes are basically ceremonial, but this fact does not mean that they do not have any effect. According Ritti and Goldner (1979), the staff is involved into activities to uphold their duties that in the long run can change the authorities' attitude in the organizations (Ritti and Goldner, 1979).

Mimetic isomorphism. However, not every institutional isomorphism stems from coercive power. Another powerful force that drives to imitation is uncertainty. If there is no clear understanding of organizational technologies, then the goals are ambiguous or the environment creates symbolic uncertainty; organizations can model themselves in the image of other organizations (March and Olsen, 1976). Advantages of imitative behavior in terms of human actions' economy is very significant: if the organization faces the problem that has arisen for ambiguous reasons or has no clear solutions, problem-oriented search can provide a viable solution without the high cost (Cyert and March, 1963).

Normative isomorphism. The third source of isomorphic organizational change has a normative nature and it stems mainly from the professionalization. Following Larson (1977) and Collins (1979) professionalization is understood as the collective struggle of those who are involved in the same occupation area, for determination of the conditions and methods of their work, for the control of the "production of producers" (Larson, 1977: 49-52), as well as for the approval of cognitive reason and legitimacy of their professional autonomy. As Larson points out the professional projects very seldom manage to achieve complete success. Businesses are forced to seek a compromise with the non-professional clients, supervisors and regulators. The recent acceleration of the professionalization process occurs primarily within organizations, especially among managers and specialized staff of large organizations. The increasing professionalization of workers, whose future is inextricably linked to the well-being of organizations-employers, has led to the fact that the traditional conflict between loyalty of the organization and devotion of the profession is now disappearing (Hall, 1968). Professions are experiencing the same pressure of coercive and mimetic processes, as well as the organizations. Moreover, even the representatives of different professions within the organization may be different from each other; they show significant similarity with representatives of similar professions in other organizations. Also in many cases, the professional power is not only a result of the professional activities, but also it is established by the state.

2.2. Stakeholder theory

I have explained before that the conformation process by organizations cannot be necessary implemented in a perfect harmony and the level of conformation may vary. But the organizations may respond to the regulatory structures depending on the situation and under the circumstances which are comfortable for them. Thus, there are also stakeholders who may affect the process of conformation by the organizations. The elaboration of the norm system for

sustainable development requirements approved by the government involves different interests of stakeholders and all of them want their interests to be represented in this norm system; so some of them may have a strong influence on the conformation process by organizations. Under these circumstances, I also consider a stakeholder theory as a supportive theory in order to find out what kind of stakeholders may cause positive or negative influence on the organizations.

“A Stakeholder is an individual or a group having a legitimate claim on the firm – someone who can affect or is affected by the firm’s activities.” (Freeman, 1984; Mattingly and Greening, 2002: 268). The types of stakeholders varies – they may include banks, employees, creditors, government, public interest groups, the general public, shareholders, suppliers, community, customers, government (Estes, 1976; Ogan and Ziebart, 1991; Tilt, 1997). All of them are divided into two main groups of stakeholders. The first one is those who are of primary importance for the organization and it is highly dependent on its survival. They are economic or primary stakeholders and include such interested groups as shareholders and investment analysts. The organization needs their information for decision-making. And the second group is those who support the activity of organization. They are not that significant for the organization’s survival and are not included into transactions with the organization but they may influence the organization’s activities and may be affected by it (Clarkson, 1995).

By the comprehensive study of stakeholders’ requirements in the environmental reports implemented by Azzone et al. (1997), the major stakeholders groups were revealed. He explored the main characteristics of all stakeholders that are included into reports.

Shareholders

Shareholders are considered to be one of the main interested groups as they might exert pressure for the organization to change its products or processes (Hardwick, 1991). However, the shareholder influence area is still requires further research. Social Investment Forum studied the stakeholders influence and found out that the stakeholders influenced around \$450 billion of assets (Gaines, 1995). Other study shows that the stakeholders were of those who use the annual reports as the basis for decision-making (Deegan and Rankin, 1997). But at the same time, KPMG study (1996) showed that the stakeholders were not that key target groups for the environmental reports. Thus, it is very important to consider how relevant are the shareholders can be for the environmental reports. At the present moment, researchers offer only limited

information about the shareholders perceiving the social, environmental and sustainability disclosures as important for their interests.

Investors

Investors are being the significant interested groups as well consider their risks and liabilities to make investments into organizations. Bad environmental disclosures by the organization diminishes the external investments by other organizations. There is more desire among the companies to invest in responsible and ethical organizations (Welford and Gouldson, 1993). Also the study implemented by Chan and Milne (1999) shows that bad environmental disclosures are important for the stakeholders in decision-making to see where they should not make investments. And at the same time the provision of good environmental disclosures are not considered good as well. The investors largely ignore the narrative disclosures as they consider not sufficient to satisfy such organizations' requirements and more prefer numeral statements.

Insurers and Banks

Insurers and banks are also from those stakeholders groups who are connected with financial activities. Thus, many of them require from the borrowers the environmental disclosures as the confirmation to the compliance with the environmental laws or any confirmation that shows the compliance with the environmental laws. This can be the basis for lending a loan for the organizations. Some banks even require to conduct environmental audits and present the report (Taberner et al., 1991). The banks also interested in the concentration of technical, eco-efficiency methods of protecting the environment during the operational activities. Within this criteria, in 1992 five major banks signed a UN declaration within which they are to ask the commercial, governmental and industrial borrowers for a sustainability compliance (Stikker, 1992).

Consumers and suppliers

Green consumers are considered to be very influential groups. They might exert a power for changing business (Polonsky et al, 1992). However, there has been done few investigations on consumer preferences in environmental reporting. KPMG Environmental Reporting Survey (1996) found out that the consumers are the key target audiences for their environmental reporting of the companies. Bansal (1993) discovered in his study also that companies identify the consumers to be the key power in exerting pressure on environmental disclosure. At the same

time, the study conducted by the International Institute for Sustainable Development shows that consumers are the least influential interested groups among such continents as Europe, North America and Japan (Deegan, 1996).

Employees and Trade Unions

The green organizations are considered to be easier to recruit employees and keep them within the company than those companies who do not commit themselves to sustainability (Tuininga and Groenewegen, 1993). Having a green image employees are more willing to work for the organization which pursue environmental laws and the ethical principles. This can be explained that such companies easily employ young people who are more environmentally aware. Also the employees perceive themselves strategically safe within green organization – as the organization cares about the environment, it will also care about its employees (Ford, 1992). Thus, also the study conducted by Coopers and Lybrand (1993) confirms that employees are more willing to work for clean, safe and innovative company rather than for a company with poor environmental record. Thus, also trade unions are the main indicators for the appropriate quality of environmental management (Tuininga and Groenewegen, 1993) and they are a part of environmental agenda and debates.

Non-governmental organizations (NGOs)

The non-governmental organizations are considered to be secondary stakeholder group and this group has received more scientific investigations than other secondary stakeholders. There has been done a lot of interviews and surveys about how the NGOs perceive the environmental reporting and how they collaborate with the companies. Now the development of the industry is very dependent on the studies of consultants and research organizations which compare, analyze, benchmark, advice and set norms for the environmental accounting (Bendell and Lake, 2000). The NGOs also took part in the development of standardized sustainability issues disclosure such as the Global Reporting Initiative (GRI). Thus, this group of stakeholders are also very important for consideration.

The Media

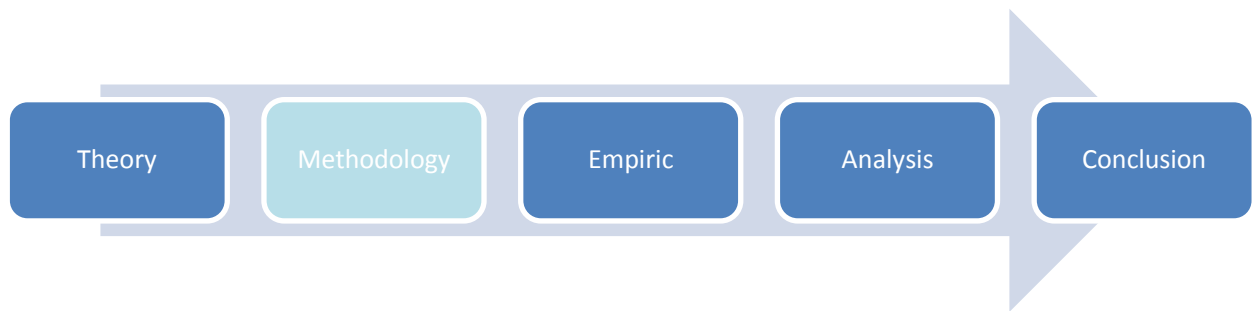
The media can be very influential on consumers' behavior that in its turn can easily affect the organization's strategic policy. The media shows the differences of the public' values over time. Thus, it can influence the companies' image and the response from the consumers

(Rappaport and Dillon, 1991). The research by PR Influences (2005) has been done and proved the close link between the visibility of the firm by the media and the attitude to it perceived by others. The research has been also done about the connection of news reports that point on companies' poor environmental concerns and the disclosure in the annual reports. It has been also revealed that the similar results are in the relationships between news reports in the industry and companies annual reports' disclosure levels (O'Donovan, 1997).

The general public

The general public concerns are very high nowadays. More and more people are getting to be very concerned about the environmental issues (McGrew, 1993). The research conducted by Keen (1995) proved that the majority of Australia population consider the environmental concerns are equal to the concerns of the economic growth and the part of them do even put the environmental protection above the economic growth. In some countries, the environmental concerns raised by the general public cause the development of new regulations on the environmental protection and in some countries the number of these laws is increasing (Rappaport and Dillon, 1991).

To sum up, in my research I consider the studied phenomenon using several theories in order to explain the realization of norms and actions system in practice by the Russian and Norwegian rail companies. There is a certain institutional environment which spreads laws, regulations, norms and ideologies among societies and it expects the organizations to follow these regulations. The organizations may follow these regulations and may not. The conformation to regulations also varies and has different forms. It also may depend on the interests of the organization by itself. The organization may be interested in conformation not because some higher authorities force it to follow but because it has its own privileges following the standards as any kind of reward from society. The organizations following the same regulations from higher authorities become similar in its organizational processes. They might have different kinds of pressures that make them to conform to regulations. These pressures might have coercive, mimetic or normative character. And as the conformation process cannot run in a perfect way, there are always stakeholders who are interested in it and may cause its influence. Thus, all these theories are relevant for my research study in order to explain the difference in the realization process of regulations set by both governments and to find out the reason why the development of rail sector in Russia and Norway is so different.



3. Methodological Framework

The methodological framework part of the research contains all the relevant information concerning research methods. It also describes the how data was collected and how it was processed. The methodological framework is one of the important parts of the research study as it gives the right direction of the further analysis to address problem statement and research question.

3.1. Definition of methodology

There are different definitions of methodology offered by countless researchers in the field of business and management research. Saunders et al. (2012) defines the term ‘methodology’ as a term that usually refers to the theory of how research should be conducted. Methodology therefore does not prove the choice of certain data collection methods; rather, it encompasses the philosophical assumptions and underpinnings upon which your research is based and the implications of these for the method or methods you have used.

The principles and the appropriate choice of the research methodology have been discussed by a number of authors as a key decision for the research project (Bryman & Bell, 2011). Thus, the choice of the methodology is usually laid between such important steps as research approach, research strategy, data collection, data analysis, and the limitations and potential problems of the research (Biggam, 2008).

My research is based on the “research onion” graph offered by Mark Saunders in 2007 and which was updated in 2011 (See Figure 2). This methodological structure by itself represents the plan of the methodological framework part of the master thesis. When the research strategy is set, I follow these stages for developing my research. Starting from the outside, each layer of the onion describes more detailed information about the research process (Saunders et al. 2007). The research onion shows the effective gradual steps following which the research study can be

designed. This model is very useful for any type of the research and can be adapted in different contexts (Bryman, 2012).

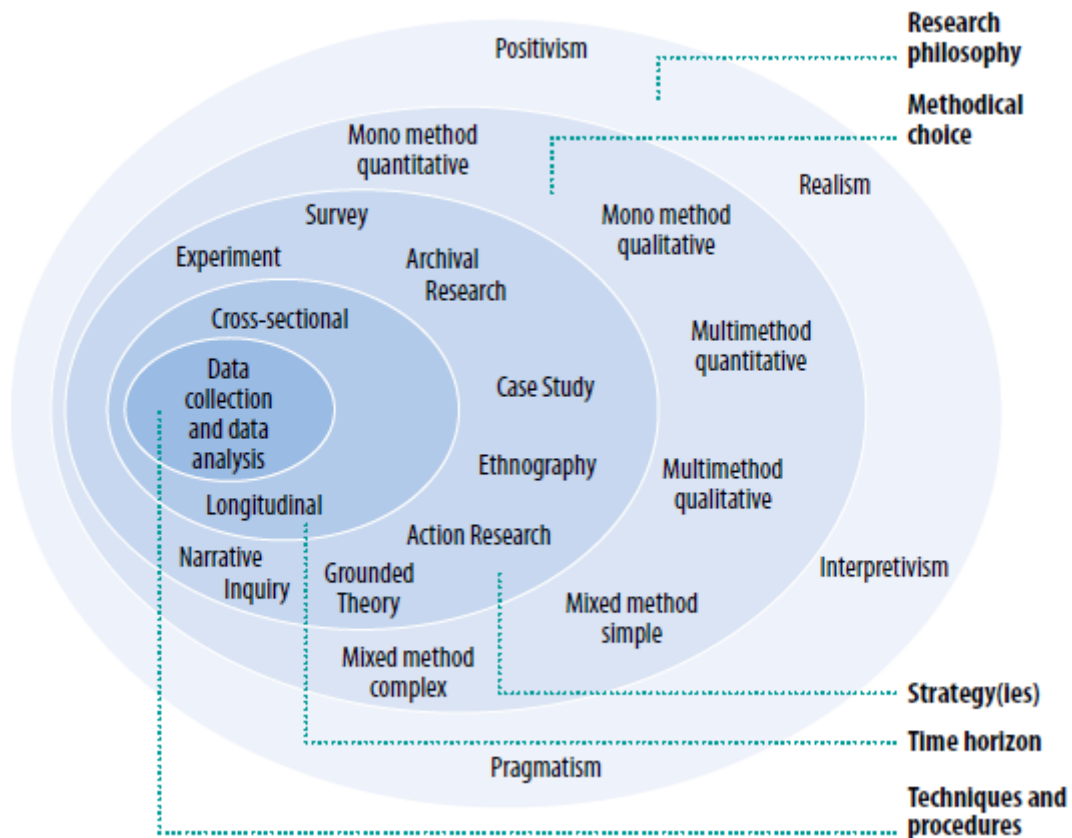


Figure 2. Research Onion by Mark Saunders, Philip Lewis and Adrian Thornhill (2011)

Thus, to understand the research process I use the research onion graph to describe all the stages that I pass in order to formulate an effective methodological framework. First, I need to define the research philosophy that would underpin my research study. The definition of philosophy in its turn creates the starting point for the appropriate research approach, which is used in the second stage – a methodical choice. The third stage represents the research strategy which is adopted, and the fourth layer defines the time horizon. The fifth stage shows the phase when the data collection methodology is identified. The advantages of the present graph are that it creates a complex of different steps under which the different methods of data collection can be understood, and illustrates the steps by which a methodological study can be described.

3.2. Research philosophy

To develop the methodologies for conducting the research I concern the matters of ontology and epistemology. “Ontology is about the nature of reality and existence; epistemology is about the best ways of enquiring into the world” (Easterby-Smith et al, 2013: 17).

The research is implemented in accordance with the philosophy of relativist ontology. According to this point of view the scientific laws are created by people and not simply to be discovered. Latour and Woolgar (1979) had a strong influence with their study of how the scientific ideas evolve within research laboratories and the amount of debates and discussion that take place about how to explain observed patterns and phenomena. Easterby-Smith et al (2013) say that all people have different opinions and some people can gain acceptance from other due to their past, reputation or current status. So, the truth is reached through discussions and agreements. Thus, I explore the truth from my own point of view and based on the available knowledge and the available data that I can process. But I only can create the very subjective truth which is evolved from my research experience. But there are other different market players who are interested in gaining the truth as well. So, if someone else with more research experience and knowledge, and status or job related position would conduct the similar research on my problem statement, the truth gained at the end of the research will vary. And the final truth can be gained only through sharing experience and discussions with several researchers. However, there is a risk that the truth may still remained to be subjective as there are various economic and political interests of groups of stakeholders that might influence the truth protecting their business activities and further strategic plans from negative consequences of the real truth.

Choosing the methods of going into research, I base my work on social constructionism approach. The point of this approach is that reality cannot be objective and that reality is a socially constructed idea and people fulfill this idea with meanings. Berger and Luckman (1966), Watzlawick (1984) and Shotter (1993) developed the idea of social constructionism and they pointed out that it is people who make sense of the world especially through sharing their experiences with others via the media of language. The focus is based on what people individually and collectively are thinking and feeling, the ways how they communicate with each other, whether verbally or non-verbally (Easterby-Smith et al, 2013). Thus, the way I collect information in order to generate a theory after is through the oral or written personal communication with first-persons of Russian and Norwegian rail companies. Through sharing

experience and getting knowledge I assess the different constructions and meanings that people place upon their experience and compose the knowledge that is necessary for conduction of the data analysis and reflection on the theory.

3.3. Methodical choice

The research study is based on non-numeric data which involves a qualitative approach of collecting data. Qualitative approach usually refers to a synonym for any kind of data collection technique such as interview or data analysis procedure such as categorizing data (Saunders et al., 2009). However, the combination of quantitative and qualitative techniques and procedures as a research choice is possible. For instance, Tashakkori and Teddlie (2003) use the term multiple methods as a more generic term. They pose that the quantitative and qualitative techniques and procedures cannot be used separately. Thus, there are two ways of research choice – either to use mono method with single data collection technique and corresponding analysis procedures or to use multiple methods with more than one data collection technique and analysis procedure to find the answer for the research question (See Figure 3).

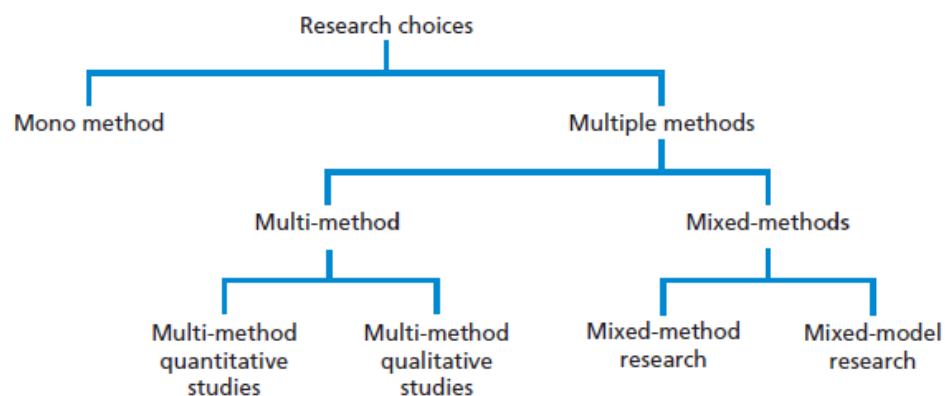


Figure 3. Research choices by Saunders, M., Lewis, P., & Thornhill, A. (2009)

Thus, I use multi-method qualitative study in my research and I chose to collect qualitative data through in-depth interviews and observation technique and to analyze these data through qualitative procedures. I chose a multiple method as it is very useful for my research study because the method provides better opportunities to address the problem statement and answer the research question. It allows me better assess the extent to which the collected data can be trustful and inferences made from it. Two data collection techniques give me an advantage that facilitates my analysis as I use interviews to get the explanatory data and to address the main issue in comparing the primary and secondary data in my research which are the data collected

from the interview and the data collected from the official documents. And I use observation technique to get a descriptive data to fulfill my understanding of the problem. The combination of two techniques gives me confidence to address the problem as clear as possible (Tashakkori and Teddlie, 2003).

Applying the qualitative approach in my research study, I also involve a comparative analysis which is the basis of my thesis as I am exploring the difference in realization of normative regulations applied by the government by Russian and Norwegian main passenger railway companies. Thus, the multi-method qualitative approach is applicable for both cases – Russian and Norwegian.

3.4. Research strategy

There are different research strategies that may be employed into research. And all of them can be used for descriptive, explanatory and exploratory research studies (Yin, 2003). All of them also have either deductive or inductive approach. Saunders et al. (2009) distinguish several research strategies which are: “experiment, survey, case study, action research, grounded theory, ethnography, archival research” (Saunders et al., 2009).

I decided that it is relevant for my research to apply case study strategy that most of all allows me to answer my research question and meet the research goal. The choice of research strategy is guided by the research question and set goal, the extent to which I possess necessary knowledge, time period and materials available for research study, as well as my philosophical underpinnings (Saunders et al., 2009).

Robson (2002) defines case study as “a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence” (Robson, 2002: 178). Yin (2003) also points out that the context is very important and that when implementing a case study the boundaries between the phenomenon being investigated and the context within which it is being investigated are not basically clearly evident.

I found the case study strategy to be relevant for my research study as it allows me to reach an extensive understanding of the context of the research in terms of what exactly causes the difference in the conformation process between two passenger railway systems in Norway and Russia (Morris and Wood, 1991). Thus, the case study strategy allows me to find answers to

the questions “Why?” “What?” and “How?” The case study has an inductive approach and is most often used in exploratory and explanatory researches. The data collection techniques are used in combination, as I have mentioned above, which are the interview and observation techniques. Thus, according to the theory of case study strategy, using the combination of more than one data collection techniques I tend to use triangulate multiple sources of data. “Triangulation refers to the use of different data collection techniques within one study in order to ensure that the data are telling you what you think they are telling you” (Saunders et al, 2009). Yin indicates two discrete dimensions and four strategies based on these dimensions which are single case/ multiple case and holistic case/ embedded case. I more tend to use multiple case study where I examine two cases which were not properly investigated by other researchers and I define if the findings of the first case may appear in the second case and then to generalize from the findings of these two cases.

3.5. Time horizon

There are two time horizons distinguished which depend on the period of the research is undertaken. The research can be implemented in a particular time or it can represent series of events during a long time period. Then, the research study can be either longitudinal or cross-sectional. My research study is a cross-sectional study as I am implementing an investigation of a particular phenomenon at a particular time period. My research study is based on a qualitative interview which is implemented over a short period of time (Saunders et al, 2009).

3.6. Techniques and procedures

3.6.1. Data collection

The choice of the researcher’s role should be taken into consideration properly. Some factors are very important while choosing the data collection techniques. First, the goal of the research should help to show what role is the most appropriate. The researcher should understand which kind of study he or she is going to undertake in order to gain the necessary insights. Second, it is valuable to consider the cost of the research. The researcher should keep in mind to what extent he or she can afford to be committed for a long period of time or if he or she should take the additional costs into consideration such training or housing costs. Third, the researcher should figure out to what extent the access can be gained. Some roles of the researcher such as explicit or covert can be difficult and take a lot of time. Forth, the researcher should also think to what extent of the role he or she would be comfortable about. Some of the researchers prefer to be concealed than they need to be able to create trustful relationships with the respondent. And

the last point is the amount of time available for the research. Some techniques require a long period of time for studying (Easterby-Smith et al, 2013).

3.6.1.1. Primary data

There are different kinds of qualitative data techniques which range from language data, observation and interaction techniques. The language data assumes gaining insights into social and organizational realities by using the natural language. The researcher determines the perceptions, opinions and the views of the individual or groups by using the same language. This is usually conducted through the in-depth interview. Observation techniques assume collection data through exploration of diaries or other textual data such as company reports or video recordings. Observation can be conducted by ethnographic approaches. The information collected by this method requires examination and understanding of symbols, settings and observations in the context. Different methods may be applied in this category of data collection techniques such as participant observation, non-participant observation and visual methods. And the last grouping of primary data collection techniques is interaction. Interaction techniques usually can be applied through photographs or other visual metaphors. This technique also assumes a close interaction and cooperation of researcher and individuals or groups which are involved into research process. I mark two primary data sources in my research which are in-depth interviews and non-participant observation (Easterby-Smith et al, 2013).

In my research I use a natural language data approach. This approach aims to use language data to gain insights into social and organizational realities (Easterby-Smith et al, 2013: 126). The data is collected through personal in-depth interview with the employees of NSB or/and RZD Companies with the prepared in advance list of questions. The questions were answered by the Head of Environmental department from NSB Company in cooperation with the NSB's Director of Safety and the NSB's Director of Quality, and the First Deputy Head of Occupational and Industrial Safety, and Environmental Management Department from RZD Company (See the Table 2 below). In-depth interviewing is a qualitative technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, program, or situation (Boyce, Neale, 2006).

Different types of research interviews exist such as structured, unstructured and semi-structured interviews. The type of research interview that I use is a semi-structured interview. The interview includes several questions in order to investigate the necessary areas. The main advantage of this interview is that it enables interviewer to diverge as to obtain particular data in

details (Gill et al, 2008). To prepare for the interview I use a checklist or atopic guide which is used as a structure for the questions.

NSB Company	RZD Company
Head of Environmental Department	First Deputy Head of Occupational and
Director of Safety	Industrial Safety and Environmental
Director of Quality	Management Department

Table 2. Representatives of environmental department in NSB and RZD Companies

I also use “laddering” technique to get more detailed information by adding “why” questions into my interview. The technique helps the respondent to move from statements of fact or descriptive accounts about the questions posed upwards in such a way that they gradually begin to reveal the individual’s value base (Easterby-Smith et al, 2013).

As I have already mentioned above I also use the non-participant observation of data collection. Visual methods of data collection involve a semi-concealed research. This technique relates to the tradition of critical management studies which are becoming especially popular nowadays. The idea of the technique is to gain the access into a particular company with the present research problem which the companies usually do not prefer to show all the respondents in order not to risk to have an image from a particular perspective (Easterby-Smith et al, 2013). Thus, the aspect of concealment is defined by how the focus of the research is determined and how the researcher takes the view under observation. Thus, the data in my research is also collected by the observation processes with the present agenda of the research aimed at the conformation by the companies with the normative regulations in the area of CO2 reductions. The observation is conducted on the railway stations in Bodø (Norway) and Saint-Petersburg (Russia).

3.6.1.2.Secondary data

Secondary sources are usually used in the researches as the supportive data to the primary. However, in my research they play a crucial role and have a significant meaning for the results. Sometimes, the data can be consisted only from the secondary sources. Secondary sources are easily can be found in different business researches and may contain information

about a specific company, market, customer, product or supplier. There are different search engines available for secondary data sources.

There are obvious several advantages of the secondary data sources. The first one is that it saves the time and effort of the researcher. Second is that the data found in the secondary sources are usually of high quality as it is written by the government or by the companies. But still, the researcher can be critical or the researcher can check if the information is actual. Third, the historical perspective is more likely achieved through secondary sources rather than the primary. The main difference between the primary and the secondary data is that the primary data may frame the data collection after the research question is stated. However, the main advantage of the secondary data is that the data does not necessary suit the study which the researcher is conducting. Thus, it is very important when the research questions may guide and frame the data (Ghauri and Grønhaug, 2010).

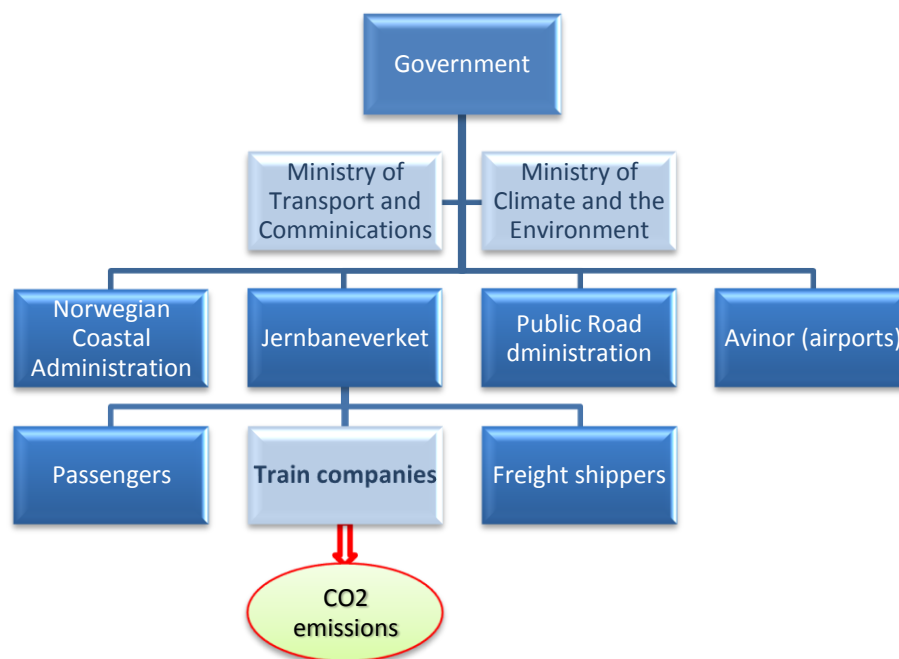


Figure 4. The levels of official entities involved into the research.

Thus, my research is based on the comparative analysis of official Russian and Norwegian documents in the area of sustainable development with a focus on the CO2 emissions reduction. I study the Norwegian Climate Policy 2011-2012, Report No. 21 (2011–2012) to the Norwegian Parliament (white paper) and the Norwegian Pollution Control Act, Act of 13 March 1981 No.6 Concerning Protection Against Pollution and Concerning Waste which are published by the

Norwegian Ministry of Climate and the Environment and confirmed by the Norwegian government. I also consider Norwegian National Transport Plan 2014-2023, Report No. 26 (2012 – 2013) to the Norwegian Parliament (White Paper) which is published by the Norwegian Ministry of Transport and Communications and confirmed by the government. From the Russian side I explore the similar documents which are the Russian Climate Policy 2020, Climate doctrine of the Russian Federation from 17 December 2009 No. 861-RP and the Federal Law about the Environmental Protection from 10 January 2002 No. 7-FZ. Both documents are published by the Ministry of the Environment and confirmed by the president. And from the Russian side I also consider the Russian National Transport Plan for the period to 2030 which is presented by the Russian Ministry of Transport and Communications and approved by the government. However, I also consider the Railway Transport Strategy of the Russian Federation for the period to 2030 for my research study as I am studying details of the rail sector development which are not written in the Russian National Transport plan (See also Figure 3 above).

In order to interpret the results if the companies conform to the normative requirements described in the documents above, I also study the annual report 2015 of NSB Company in the area of passenger transportation. The report also contains the information about the sustainability issues. And I study the sustainability report 2015 of RZD Company as well. Combining two data collection techniques – interviews and companies' reports studying gives me more insights for doing the right explanation of the phenomenon.

3.6.2. Data analysis

I base the choice of the analysis technique on the inductive approach in my research study. The inductive approach assumes collecting data and then exploring it to figure out what issues or themes I should follow up or concentrate on (Glaser and Strauss 1967; Schatzman and Strauss 1973; Strauss and Corbin 2008; Yin 2003). Thus, Yin (2003) also points out that it is very difficult to come up to the right results for an inexperienced researcher. This approach likely represents when the researcher collects data without examining it to check which issues are appearing from the data while the researcher is in the progress.

The research approach of my study is likely refers to the descriptive purposes. I define my research study to have a descriptive character because I give a description and a full understanding of the studied phenomenon. I also use an already existing theory and let the theory to guide the data. I also reformulate some aspects from the theoretical framework if the data requires in the research process. Robson defines the goal of the descriptive research “is to

portray an accurate profile of persons, events or situations” (Robson 2002: 59). This is usually the piece of research which goes before explanatory and exploratory studies.

3.6.2.1. Analytic induction method

There are several inductively based analytical procedures to analyze qualitative data. They include data display and analysis, template analysis, analytic induction, grounded theory, discourse analysis and narrative analysis. Following the theory of inductive approach I came to the decision that the analytic induction method is the most appropriate for my research study. Johnson (2004: 165) defines analytic induction as ‘the intensive examination of a strategically selected number of cases so as to empirically establish the causes of a specific phenomenon’.

This method of analyzing qualitative data starts with a less concrete explanation of the phenomenon that needs to be investigated. The explanation needs to be tested by a case study in order to explore the phenomenon. The initial poor defined explanation will require be narrowing or redefining. When one of these actions is selected, the phenomenon will need to be redefined and the researcher should explore a second case study that will be selected purposively. And when the explanation seems to be confirmed, the researcher may stop data collection or continue to seek testing the explanation by other selected cases to figure out if the results are valid. And if the explanation is not valid, the research needs to be revised and to be tested in the context of another selected case. This may continue until a proper explanation will be gained (Saunders et al, 2009).

Thus, I defined that analytic induction method is well coordinated with the data collection through in-depth interview with the respondents from Norwegian and Russian railway companies and observation techniques based on the exploration of evidence of the present agenda on the railway stations in Norway and Russia. This inductive approach of analyzing qualitative data may lead to the development of well-grounded explanations.

3.6.2.2. Credibility of research findings

When the research analysis is completed, it is very important to figure out if the research findings are credible, if others can trust them. The credibility of the research findings can be attributed to the notes made by Raimond (1993) when he subjects findings to the ‘how do I know?’ test: ‘. . . will the evidence and my conclusions stand up to the closest scrutiny?’ Thus, to answer such question, the researcher needs to reduce the possibilities of getting the wrong answer as you never know for sure if the findings are correct. In order to reduce the possibility of getting the wrong answer, I pay attention to the reliability and validity of my research study.

Reliability identifies if the chosen data collection techniques and analysis procedures will lead to the appropriate findings. This can be assessed by asking three the following questions (Easterby-Smith *et al.* 2008: 109):

1. Will the measures yield the same results on other occasions?
2. Will similar observations be reached by other observers?
3. Is there transparency in how sense was made from the raw data?

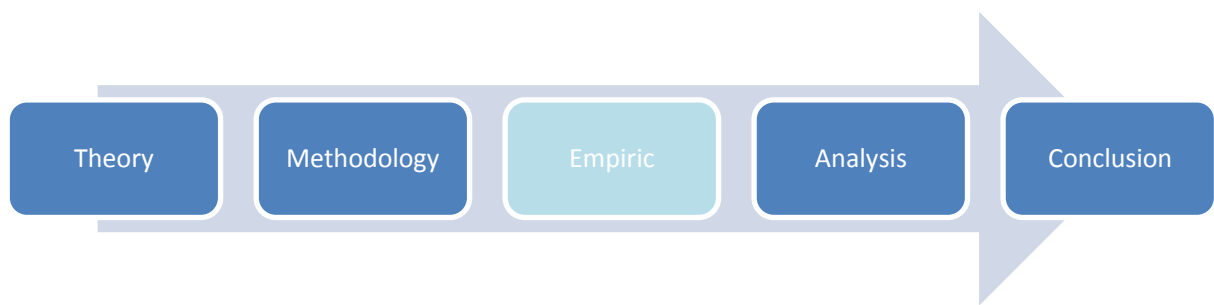
Thus, I consider some limitations that may prevent reliability of the research. First, it is subject or participant error. This point can be explained with that I have to take into account some narrows places in the research and prevent the respondent from the wrong answers. This can be achieved by choosing the appropriate time for the interview and obtaining trust and respect in order the respondent could give me the trustful answers to the questions concerned about the CO2 emissions reduction. Second, the problem may arise if the respondents are willing to say what their chief managers want them to say in order to avoid a negative image of the company in the particular area. This is very typical for the organizations where the employment insecurity may take place. So, I need to take into account the position of the respondent in the company, learn his background and assess the probability of getting from him or her the wrong answer. Third limitation may arise from observer error. To prevent it I should clearly think about the way of asking questions in order to avoid the wrong explanation of the answer. And the last limitation may arise from observer bias. In this case I have to more properly interpret the answer in order to avoid the wrong interpretation (Robson, 2002).

‘The validity of the research is concerned with whether the findings are really about what they appear to be about. Is the relationship between two variables a causal relationship?’ (Saunders et al, 2009) Robson (2002) also distinguished several limitations on the validity of the research. The first limitation may be concerned with history. Here, it is very important to take into consideration the time and consequences of the company when the interview is conducted or observation is done. Second, it is testing. If the results may lead to some disadvantages of the company, it also may cause the wrong explanation and getting the wrong answer. Third, it is instrumentation. There is also important to consider the duties and responsibilities of the employees from both companies. There is a probability that some of them may be given instructions or some orders from the chief managers that may also cause getting the wrong explanation. The forth limitation is mortality. This refers to participants dropping out of studies. And the last limitation is maturation. This is about that some events happening with the

respondents during the year may negatively affect their answers. Thus, in order to avoid the wrong answer during the interviews and observation, I take into consideration all the limitations by preparing properly for data collection and investigating the background of the subjects and respondents that are to be in the research process.

3.6.2.3. Ethical aspects

While designing my research I also take into consideration the ethical aspects of the subject of investigation as it plays an important role in gaining the access to the people and the companies for the necessary information. The choice of the research topic is governed by the ethical considerations. The topic of CO2 emissions reduction by transport is of great interest for me at the present moment as I consider this issue to be relevant for being investigated and I am passionate about contributing a little part of my research study to the overall problem solution. Thus, while implementing the research design I take into consideration the fact that the employees from Russian and Norwegian railway companies would not feel themselves embarrassed or uncomfortable. The research design assumes making no harm or any material injury to the respondents while the research process. I also make the respondents aware about them being a part of my research, about the problem and main idea of my research that also make them being more interested in taking part in the interview (Saunders et al, 2009).



4. Empirical part

The empirical part of my research study consists of four main parts. The overview of the empirical material is followed by the second part that reveals the information presented in the Russian and Norwegian normative regulations on sustainable development in the area of CO2 emissions reduction. This part shows in details what the normative regulations are about in Russian and Norwegian rail passenger transport sectors on three levels: the government and the Ministry of Transport and Communications, the Ministry of the Environment and the National Rail Administration. The third part shows the results that I have got after conducting the interview with the employees of JSC RZD and NSB Company from the NSB Group. And the fourth part summarizes the results of the observation techniques on the railway stations in Bodo and Saint-Petersburg.

4.1. Overview of empirical material

The basis for empirical material is the official documents on the development of transport sector in a sustainable way in Norway in Russia. In my research I consider the documents offered by the Ministry of Transport and Communications where the strategic plans on the development of transport sector are presented and approved by the government. I also consider the documents issued by the Ministry of Climate and the Environment where the guidelines for sustainable development for all sectors of economy are described (See Figure 2).

RUSSIA: JSC RUSSIAN RAILWAYS (JSC RZD)	NORWAY: NSB COMPANY FROM THE NSB GROUP
1) Russian Climate Policy 2020, Climate doctrine of the Russian Federation from 17 December 2009 No. 861-RP	1) Norwegian Climate Policy 2011-2012, Report No. 21 (2011–2012) to the Storting (white paper)
2) Federal Law about the Environmental Protection from 10 January 2002 No. 7-FZ	2) Norwegian Pollution Control Act, Act of 13 March 1981 No.6 Concerning Protection Against Pollution and Concerning Waste
3) National Transport Plan for the period to 2030 Railway Transport Strategy of the Russian Federation for the period to 2030	3) National Transport Plan 2014-2023, Report No. 26 (2012 – 2013) Report to the Storting (White Paper)
4) RZD Sustainability Report 2014	4) NSB Annual Report 2015

Figure 5. The Russian and Norwegian National documents involved into research.

4.2. Description of national normative regulations

NORWAY

4.2.1. Ministry of Climate and the Environment: Norway

4.2.1.1. Norwegian Climate Policy (2011-2012)

In my research I consider the environmental regulations applied by the Ministry of Climate and the Environment which are described in the Norwegian Climate Policy 2011-2012 and consider specifically those regulations which are applicable to the issue of CO2 emissions reduction. The document is the report no. 21 (2011-2012) to the Norwegian Parliament and is

being a white paper. The present document contains the recommendations from the Ministry of the Environment dated on 25 of April, 2012 and approved by the Cabinet on the same date (Stoltenberg II Government). This white paper is also the basis for the Climate Agreement.

The present document points the main issue nowadays which is the climate change and describes the measures that should be implemented in the country in order to keep the level of greenhouse gas emissions stabilized. The level of emissions into the atmosphere in the developed countries are 40% above the pre-industrial level and this number is increasing non-stop if any measures are not implemented. And the main goal of the government is to contribute to the national reduction of greenhouse gas emissions to the atmosphere and prevent the destruction of the earth's climate system. Thus, "according to the expectations by the United Nation Intergovernmental Panel on Climate Change (IPCC), the level of greenhouse gas emissions should be reduced on 50-85% up to 2050 to prevent the dangerous consequences of climate change" (Norwegian Climate Policy, 2011-2012). And this level is possible only if all developed and developing countries apply the CO2 emissions reduction policy. With every year it is more costly and difficult to manage carbon pollution and avoid more serious consequences of greenhouse gas emissions.

Thus, Norway contributes to the international climate work by embedding a set of domestic climate policy instruments to reduce emissions within the country. The main goal of the government is to reach a low-carbon society. Norway is working on strengthening the measures to achieve its goal and expect all the entities to follow the policy on reducing greenhouse gas emissions. Transport sector is described as one of those that need to be prioritized in terms of carbon emissions improvement policy. By designing the climate policy the government expect it to be supportive for businesses and industries. It believes that Norway should develop its industries in environmentally-friendly way and base its development on introduction of new environmentally friendly technologies. It also expects local municipalities to work on new environmentally friendly solutions over time.

The basic principle of climate policy is the sustainability principle over which the sustainable development is gained by the following the equitable distribution, international solidarity, the precautionary principle, the polluter pays principle, and the principle of a common commitment. Thus, the key principles are also the introduction of environmentally friendly technologies and methods, and in a case of the lack of these ones - a precautionary principle

should be applied, and a polluter principle when the organization is committed to pay for the extra level of CO2 emissions which are permitted.

The climate change problem can be prevented only by cooperation of all the countries, thus Norway takes its responsibility to pursue the domestic policy on greenhouse gas emissions. Therefore, Norway has been working for a long time to strengthen the climate policy instruments and now it expects a reduction of carbon emissions on 13-16 million tonnes up to 2050 and looks forward the transformation of the country towards a low-emissions society.

The present document also shows a significant increase in the prices on reduction of emissions by companies in all sectors after the international carbon prices have been fallen. Thus, the broad assessment of domestic emissions reduction prices has been implemented, and the results show that the marginal costs of domestic emissions reduction by 12 tones of CO2 equivalents is equal to 1100-1500 NOK per ton. And this is the price which is applicable to all sectors. Moreover, if some companies covered with the emission trading scheme are exempted from these expenses, then the companies in other sectors have to pay 3400 NOK per ton. The more exact calculations can be found in the National Budget 2011.

The main national goal for lower emissions to address the climate change issue is the development of new technologies. To implement this goal Norway is working on a change that includes producing more renewable energy for those sectors which primarily use now fossil energy, and using the energy more efficiently. Thus, the Norwegian government points out that the new climate-friendly technologies are the most essential part of this process. It also emphasizes that the companies should implement more expensive domestic measures that will probably not yield in the short and medium terms but that will show stable and positive results over long time.

The Norwegian government contemplates the prices on greenhouse gas emissions to be the strongest driving power to control pollution. Therefore, it works on the tax policy to force the companies to apply modern climate-friendly technologies and cut emissions. In 2013, more sources of greenhouse gas emissions were subject to carbon emissions taxes with the introduction of EU emission trading scheme. Thus, also in the connection that Norway is a small country and the industrial possibilities are limited at some point, the Norwegian government says that the companies could produce these new climate friendly technologies abroad and with this

to reduce carbon emissions within the country. Norway is dependent on the international development of new technologies and at the same time some technologies which are produced within the country and sold abroad will contribute to less CO2 emissions abroad. This emphasizes the domestic and international efforts connection. The government expects the introduction of new funds that will support the development of new technologies and industrial transformation.

The emissions from transport sector are equal to 32% of total Norway's greenhouse gas emissions in 2010. Thus, Norway emphasizes on using environment-friendly vehicle technologies to reduce pollution as well as proving the choice in public transport sector to use public transport, walking or cycling. It also says that one of the main goals in transport sector now is to absorb the growth in using public transport as well as improving the infrastructure in walking and cycling areas. The increase in investments has been done by the government to extend the environment-friendly modes of transport in Norway and reduce the usage of personal road transport. Particularly in the areas of big cities, the investment in railway modes of transport has been increased to raise the competitiveness of rail public transport over personal road one.

4.2.1.2. Norwegian Pollution Control Act

I also consider the Norwegian Pollution Control Act which is offered for more detailed consideration of sustainability issues by the Norwegian Climate Policy 2011-2012. I study this document to understand the measures that should be applied by the companies in order to reduce the pollution caused by carbon emissions in the transport sector – railway sector in particular. The document is the Act of 13 March 1981 No. 6 “Concerning Protection Against Pollution and Concerning Waste”. The goal of this document is to impose the norms on the reduction of existing pollution, environmental protection from possible pollution, waste reduction and waste management improvement. The present document is committed that the level of pollution is satisfactory and does not cause any damage on the environment and on its ability to renew the resources.

The present document has general guidelines for all the sectors to follow. It points that the organization is to make all the efforts to avoid pollution and to diminish risk of possible pollution, as well as to eliminate waste disposal. The organization should contribute to the satisfactory level of environmental quality, human health and welfare. The costs should be payed according to the measures against pollution which are not implemented. Coordination with

pollution control authority should be made to avoid risk of pollution and waste problems. The present act emphasizes on using new technologies that result in the positive environmental and economic outcomes in the future. Waste management should properly designed to not cause serious damages.

The document also generally emphasizes that the organization is to provide all the necessary measures to prevent the danger if such danger occur contrary to the present act or to apply measures to eliminate negative effects from the pollution if it has already occurred. The person responsible for pollution affairs should take all the steps to mitigate damage from pollution. The person responsible may also be appointed by the pollution control authority.

Pollution Control Act identifies transport to be a separate polluter and indicates the most important parts of the document where duties for the transport companies and all organizations that are involved in the transport system, are described.

The first one is about an acute pollution. This chapter of the document describes measures how to act in case of the level of permitted pollution is exceeded and occurs suddenly. It says that the organization that cause damage is obliged to notify to police authorities immediately in the case of the acute pollution. The organization that also probably may spread that kind of damage must have the appropriate emergency response system. This emergency response system should be developed in the proportion of probability of damage occurrence and to the extent to which it may arise. The pollution control authorities also demand that the contingency plan should be developed that would describe the actions taken by the company in the case of acute pollution. The pollution Control Authority may also require to assign a responsible person for provision of the emergency response system and conducting the contingency plan. This responsible person should provide measures to prevent risk of acute pollution or take measure to avoid the acute pollution occurrence. In case if the duties of the responsible person are not implemented, the responsible person should contact municipality to be provided with equipment and personnel to eliminate pollution.

The second part is about an inspection and control measures that are related to pollution and waste. The pollution control authority is responsible to monitor the situation with pollution occurrence and waste management, thus the person responsible for pollution affairs in the organization has to provide necessary information to this authorities or any other public bodies.

The person responsible also should allow the public bodies to run the inspection in the places where damage may occur or there is a risk of pollution. The expenses of the inspection may be covered by the organization if the pollution control authority considers reasonable to figure out the risk of pollution occurrence, define the impacts that may cause the pollution or set the measures how the pollution may be eliminated. The investigations and analyses may be also implemented in the way how the pollution control authority decides or it may set a person from its entity who is responsible to implement these investigations. The pollution control entity may also charge a fee for dealing with applications for permits and for control measures to monitor the compliance with this act; as well as to assign the regulations related to internal control if the organization is complied with this act.

The third one is about the implementation of the present act and payment of costs for measures against pollution. The documents say that if the orders issued by the pollution control authority have not been followed by the person responsible, the authority may apply special measures against it. It also may prescribe measures for an organization to avoid the delays of implementation of the orders. The pollution control authority may cause damage of the property of person responsible to force to comply with the orders; it may also issue further regulations to reach the compliance with the orders. If it occurs, the pollution control authority is responsible for remuneration for the property damage. The person responsible for the pollution and waste problems or other party who caused that kind of damage is committed to the costs or losses. It also says that if the measures are not implemented on time and they are urgently required for implementation and other person protected his property from damage and eliminated the pollution, he has the right to ask the person responsible for this pollution to cover all the expenses. However, these expenses may be claimed by other from public party only if it is clear that the measures against pollution which are not implemented do not cause public damage or the pollution control authority should agree on this claim.

And the last part which is of great importance for transport sector companies is about penal measures. This part covers the conditions on which the organization may be imposed with the fines or imprisonment. These conditions may occur if the organization cause any kind of pollution contrary to the present Act; if the organization fails to implement the appropriate conditions to avoid damage; if the organization does not notify to the necessary entities; if the organizations willfully does not follow the orders issues by public authorities or if the

organization fails on all these conditions. The person responsible may also be jailed if the pollution has resulted in a great risk for the environment and society for no more than two year and no more than five years if it has resulted to human death or health damage. The fines and imprisonment on not more than three months may also occur with the person responsible in case of unlawful waste management or both measures can be imposed at the same time.

4.2.2. Ministry of Transport and Communications: Norway

4.2.2.1. National Transport Plan 2014-2023

On the level of the Ministry of Transport and Communications in Norway I study the National Transport Plan 2014-2023 document which is white paper as well. The present document was approved by the Norwegian Parliament and presented by the Norwegian Government in 2013. The goal of this document is to show the prospects of development of the entire transport system in Norway. However, I am more focused in this document on the information on the development of railway transport sector in Norway.

The Norwegian Government strives to improve it by making it easier, faster and safer in order to improve the competitiveness of businesses and industries and reduce pollution. The government makes all the efforts for transition of Norway to low-carbon society by developing the transport system to reduce the environmental impact. Thus, the government set the guidelines for the transport system development in the Norwegian Climate Policy that I described above. The National Transport Plan contains the description of the projects which are planned to be invested in. The government emphasizes on the developing and upgrading roads, railways, civil aviation and marine infrastructure to make it possible to connect different modes of transport with each other. The government also points on the development of public transport to meet the population growth and the infrastructure in cycling and walking areas where the environmental and capacity issues are of great importance.

Thus, the long-term strategy of the government is to strengthen the advantages of all transport modes and facilitate their interaction in order to use the resources more efficiently. The rail transport in its turn should be environmentally friendly and efficient in the areas with high flows.

The present document also describes the main challenges that remain at the present moment. One of them is the problem of meeting the population growth, rising incomes and globalization that cause to increase the capacity and quality of transport system. This in its turn

needs to be developed in an environmentally friendly way to reduce greenhouse gas emissions and to avoid harmful consequences for the environment. Thus, the population growth should be resolved by the expansion of public transportation, walking and cycling areas.

The government planned to increase the investments into the transport sector and expect the local counties and municipalities to be responsible for that and make all possible to increase frequencies of public transport that can be cheaper and better in services as much as it possible based on their operations. Thus, by its investment the government gives priority to renewal, operation and maintenance to improve safety and reliability of transport modes. The government expects operational stability from the railways for the planned period. It plans to increase the investments in railways on more than 50% especially in large projects.

The goal of transport policy is about achieving efficient, accessible for everyone, safe and climate-friendly transport system that is able to meet entirely the demands of society and contributes to the overall development on the country. In this connection, the government set four major goals which are the basis for the priorities in implementation of the transport policy. They are traffic flow, traffic safety, environment and universal design. As my study is oriented on the exploration of the regulations aimed on the reduction of greenhouse gas emissions, the third aim of the transport policy is prominent for my research. The government points out on the importance of the reduction of greenhouse gas emissions by transport sector, as well as air and noise pollution, the loss of biodiversity and the destruction of croplands. All these environmental concerns should be taken into account while operational and maintenance developing by transport companies.

According to the Climate Agreement the population growth should be absorbed by the increasing role of public transport. The personal road transport should be reduced in use. As the new environmental agreements contain more comprehensive regulations on the development of transport system, the transport companies are to reorganize the transport policies over the planned period how to increase the competitiveness of public transport and raise its role in the whole transportation system. These environmental agreements contain the description of targets and measures for increasing use of public transport and measures how to reduce the use of personal cars.

RUSSIA

4.2.3. Ministry of the Environment: Russia

4.2.3.1. Russian Climate Policy (2020)

Climate doctrine of the Russian Federation from 17 December 2009 No. 861-RP

On the level of the Ministry of the Environment in Russia, I study the Russian Climate Policy for the period up to 2020 which is written in the *Climate doctrine of the Russian Federation from 17 December 2009 No. 861-RP*. The present document addresses the climate change issue and the sustainable development of the country. The government is concerned about an abnormal warming for the last ten years and admits that economic activities of the country are very extensive and have a great impact on the environment. Moreover, the territories of Russia are very large that means that the country has to be responsible for its negative impact on the environment and control the pollution. Thus, the present document contains the goal and the principles of the climate policy of Russia, the description of the climate policy and its realization.

The Ministry of the Environment also issued the realization plan of this policy that is expected to be implemented up to 2020. The name of the plan is *The comprehensive plan for the implementation of the Climate doctrine of the Russian Federation for the period till 2020*. This realization plan was approved by the government on 25 April 2011. The plan contains five parts for the implementation issued by the government which are 1) Strengthening and developing informational, scientific, socio-economic and manpower policy in the field of climate, 2) Developing and implementing operational and long-term measures to adapt to climate change, 3) Developing and implementing operational measures to mitigate anthropogenic impact on climate, 4) Cooperating internationally in the field of climate change, 5) Monitoring the implementation of the provisions of the comprehensive plan implementation of the Climate doctrine of the Russian Federation until 2020.

The strategic goal of Russian Federation policy in the area of climate is to ensure safe and sustainable development of the Russian Federation, including institutional, economic, environmental and social aspects of development in a changing climate and occurrence of corresponding threats and challenges.

Thus, the government distinguishes several principles of the climate policy. It considers the global nature of the interests of the Russian Federation in relation to climate change and its consequences. It also gives priority of national interests in the development and implementation of state policy in the field of climate change. It provides clarity and openness of information

policy of the Russian Federation in the field of climate change. The government recognizes the need for action both within the country and within a full international partnership of the Russian Federation in international research programmes and projects. The government defines a comprehensive accounting of potential losses and benefits associated with climate change. It also creates a precaution when planning and implementing measures to ensure the protection of population, economy and the country from the negative effects of climate change.

In order to reach the set goal of the climate policy up to 2020, the government established several tasks. The government emphasizes on strengthening and development of informational and scientific basis in climate policy of the Russian Federation in the field of climate, including the full strengthening scientific and technological potential of the Russian Federation, to ensure the maximum completeness and reliability of information about the state of the climate system, forcing, events and future changes and their consequences. The government also admits the development and implementation of operational and long-term measures to adapt to climate change. Moreover, the government sets an important task to develop and implement the operational and long-term measures to mitigate anthropogenic impact on climate. And the government also insists on participation in initiatives of the international community in addressing climate change and related problems.

The climate doctrine distinguishes several subjects that are expected to run their operations on accordance with the national plans of climate change mitigation. There is a separate block of tasks for realization for the enterprises and households. The mitigation of anthropogenic impact on climate in manufacturing and in the service sector is defined by the following tasks. The governments insist on making improvements in the efficiency of production and consumption of thermal and electric energy. It also admits that the improvements in fuel efficiency of vehicles in the transport sector should be done. The organizations of industrial and infrastructural purposes must develop an energy saving policy including the reduction of energy losses during transportation. The government also points out on energy efficiency of buildings and promotion of energy conservation at home. The government emphasizes on using the weather and climate forecasts to improve the efficiency in the implementation of these measures. Moreover, the government admits to increase the share of alternative (including non-carbon) sources in energy production. And it also says about rational use of forests and agricultural lands.

Thus, in order to mitigate a climate change and contribute to the international efforts to conserve the environment and to reduce pollution, the Russian government also issued the order *The decree of the President of the Russian Federation dated 30.09.2013 No. 752 "On the reduction of greenhouse gas emissions"* according to which the government expects from all the economic entities to reduce the CO2 emissions by 2020 to no greater than 75 % of the volume of the emissions in 1990. It also issued the plan of activities to realization of this order *The decree of the Russian government from 02.04.2014 No. 504-R* which contain the set of measures to ensure the reduction of greenhouse gas emissions by 2020 to the appropriate volume. And in order to ensure the implementation of this plan for realization and monitor the compliance processes the government also issued the concept of formation of system of monitoring, reporting and verification of greenhouse gas emissions in the Russian Federation which is *The decree of the government of the Russian Federation from April 22, 2015 No. 716-R*.

4.2.3.2. Federal Law about the Environmental Protection

I also study the *Federal Law about the Environmental Protection in Russia* which is issued by the Russian government in 2002. The present document defines the norms and standards of governmental policy in the area of environmental protection. The document provides a balanced solution for social and economic tasks, environmental protection, biodiversity and natural resources conservation in order to satisfy needs of the present and future generations; the document also facilitates strengthening the regulations in the area of environmental protection and provision of ecological safety. The present document regulates the relationships between the nature and the society during the economic activities that might have negative impact on the environment.

I focus my attention on several parts of the documents that are relevant for the railway passenger transport sector. The first one is the economic regulations in the area of environmental protection. It is about a payment for the negative influences on the environment from operations. All the enterprises and households are to pay for the harmful emissions for the atmosphere which are above the norm. The organizations should follow the appropriate level of emissions by themselves through the production economic control system. The payments depend on the volume and weight of emissions. The organizations should report their level of emissions once a year. If the organizations fail to pay for the extra level of emissions on time, the government

charges a penny on this organization for each day of payment delay. The government may also stimulate economically the organization to stop its operations if they have a great risk for the environment and society.

The second part is about standards in the area of environmental protection. There are the certain standards for the amount of CO2 emissions into the atmosphere acceptable and the organizations are responsible for following these standards in the Russian legislation. The government also points out on the application of best available technologies aimed at integrated prevention or minimization the negative impact on the environment in the economic related activities area where there is the most serious consequences for the environment from the operations. The best available technologies assume to be the combination of the following criteria: the lowest level of negative impact on the environment, economic efficiency of its implementation and operation; the use of resource and energy saving methods; the period of its implementation; industrial introduction of this technology on two or more objects that have a negative impact on the environment.

The third relevant part for the railway transport sector in this document is about the assessment of the environmental impact and the ecological inspection. This part describes the information that the organizations are to implement the assessment of the environmental impact by the governmental bodies responsible for the environment conservation if there is a risk of great losses or serious negative consequences for the environment. The government bodies in the area of environmental conservation imply the appropriate requirements according to the ecological inspection. Ecological expertise is conducted in order to establish the compliance of documentation substantiating planned economic and other activity requirements in the field of environmental protection.

The fourth relevant part is about requirements in the field of environmental protection in the implementation of economic and other activities. In this part I focus on the requirements set for the exploitation of automobile transport. The government points out in this part that all legal bodies that exploit automotive and other modes of transport that cause a negative impact on the environment, are obliged to respect the norms of permissible emissions and discharges of substances and microorganisms, as well as to take measures for the disposal of polluting substances, including neutralization, reducing the level of noise and other negative impact on the environment.

Unlike in the Norwegian Pollution Control Act, the responsibilities in case of the violation of the legislation in the area of environmental protection are written in a separate part of the Federal Law about the Environmental Protection. This part says that the organization that fails the environmental legislation is set a property, disciplinary, administrative and criminal liability in accordance with the law. All the enterprises and households that cause harm to the environment as a result of its pollution, depletion, damage, destruction, irrational use of natural resources, degradation and destruction of natural ecological systems and natural landscapes or other violations of the law in the field of environmental protection, are to pay the full price in accordance with the legislation.

4.2.4. Ministry of Transport and Communications: Russia

4.2.4.1. National Transport Plan 2030

On the level of the Ministry of Transport and Communications in Russia I take into consideration the Russian National Transport Plan 2030. The present document describes the national long-term strategy up to 2030 on the development of all modes of transports in Russia. I study the regulations on development of railway transport in the *Railway Transport Strategy of the Russian Federation for the period to 2030* further in this chapter.

The present documents analyzes the current state of all modes of transport and the challenges of its development. It defines goals and tasks that should be solved in order to gain an implementation of the present project. The general tasks of the national plan are very similar to the tasks described in the *Railway Transport Strategy of the Russian Federation for the period to 2030*. I consider more detailed information on regulations for the development of railway transport sector in this strategy.

The Ministry of Transport and Communications point on the development of effective transport infrastructure and formation of common transport space. The ministry also emphasizes that the entire transport system needs to be modernized by improving the transport services, providing its availability for different regions, raising quality of services and volume in order to be able to meet the population growth and market demand. Thus, the government expects from all entities involved into the transportation system providing the availability, increased volume of transport services and appropriate level of competitiveness in transport sector according to the current demand of consumers. The quality and the availability of transport services should be provided also according to the social standards. The important point of the national transport

plan is also the development of the current technologies. The ministry points out that the transport equipment should be improved and replaced with new one where necessary. The new technologies should be introduced into the transportation system in Russia being able to approach the technologies that are in use in developing countries. The Ministry of Transport and Communications also emphasizes on the integration into the global transport space and realization of transit potential of Russian transport. Moreover, the level of safety of transport system should be increased and the negative impact on the environment should be reduced.

4.2.4.2. Railway Transport Strategy of the Russian Federation for the period to 2030

I also study the Transport Strategy of the Russian Federation for the period to 2030 which was approved by the Russian government on 17 June 2008 № 877-p. The present document focuses on the development of the railway mode of transport system. It contains the information according to the strategic development of Russian railway transport sector in a long-term perspective. In this document I am more focused what are the regulations applied by the government are aimed at raising competitiveness in Russian rail passenger transport sector and what are the necessary steps towards the development of this sector.

The development of the railway sector in Russia plays a significant role nowadays as it provides the transition to modernization, creates innovative way of entire development and the sustainable growth of national economy. It also creates conditions for Russia's leadership in the world economic system. The present document points on the importance of Russian railway sector development also because the perspectives of further social and economic development are dependent on the quality and conditions of railway transport operations. The development of railway transport sector also facilitates the protection of national sovereignty and safety of the country, provision of society with transportation meeting the growing demand and creates the conditions under which different regions of Russia can tend to become equal in terms of social and economic development. More than that, the processes of globalization and changes on global economic markets force Russia to use the transit potential more rationally that allows Russia to get an economical effect from international transportation and creates new instruments of Russia influence on global economic processes. Thus, the development of transportation sector is of great importance for government now.

The government points on the weak places in transport system that need to be developed and attract the investments to modernize the transport sector and raise the

competitiveness of railway transport. Thus, there are several key points that the government emphasizes. First, it is the necessity to renew the rolling stocks of railway transport. It also needs a technological development of rail transport to be at the same level with developed countries in the area of rail transportation. The government also points out that due to large territories of Russia, there is a strong necessity to improve a flow capacity in all regions and avoid the discrepancies of infrastructure development in different regions of Russia. Then, the government emphasizes on improving safety within the operations of transport system and necessity for the investments in railway sector.

This strategy is of great importance to be implemented in order to provide the long-term development of railways in Russia as a basis for the development of economy and all the regions of the country and to propel the Russian transport companies to comply with the global level of railway technologies.

The goal of the present document is to develop the conditions for sustainable social and economic development of the Russian Federation, to raise the population mobility and optimization of goods exchange, to strengthen the economic sovereignty, national safety and defense capability, to decrease the common transport expenses of economy, to raise the competitiveness of national economy and to provide the leadership of Russia based on the innovative development of railway transport sector which exists in the harmony with the other modes of transport, economic development and development of different regions of the country.

Thus, the present document emphasizes on realizing several tasks by all the market bodies involved into the transportation system. The government points out that in coordination with all the bodies involved into the transport system, an available and sustainable transport system should be developed being the basis to provide a transport integrity, independency, safety and defense capability, socio-economic growth and ability to meet the population growth and meet market demand for transport. The government also points out on the necessity to strengthen the railway infrastructure against terroristic activity by realizing the mobilization preparation in the railway transport and raising the defense capacity of the rolling stock. There is also an important tasks which are a realization of transit potential in Russia in order to be able to integrate to the international transport systems and a creation of conditions to make it possible for railway workers to be more flexible. The government also sets the task to work on price policy for providing transport services that means reducing common transport expenses by

raising effectiveness of operations at the same time. More than that, it emphasizes on strengthening safety and improving quality of transport services as well as approaching the world standards in technologies used in the railway sector. Then, there is a need to attract the investments in the railway sector and to keep the environment clean in order to follow the rights of individuals for the good environmental conditions.

4.3. Results of the interviews

Having implemented the interview with the employees from the NSB and RZD Companies, I gathered the information which is relevant according to the present agenda on CO2 emissions reduction within the company. After collecting data, I am able to present the results based on which I can charge if the organization is on the right way following the normative regulations confirmed by the Norwegian and Russian governments. To make the right explanation of the present phenomenon I also include into this part the additional data taken from the annual report 2015 issued by the NSB Company which contains the sustainability issues and the sustainability report 2014 issued by RZD Company (sustainability report RZD 2015 has not been issued yet) combined with the “Ecological Strategy of RZD up to 2017 and for the perspective on 2030”. I take all the relevant information from the present reports concerning the CO2 emissions reduction by the companies, its strategies, description of the climate policy and the instruments aimed at decreasing pollution with harmful emissions. Thus, combining data received from the interview with the Head of Environmental Department of NSB and RZD Companies, and the data investigated from the their reports 2015, I have made several conclusions presented below.

4.3.1. Interviewee #1 from NSB Company

Climate policy instruments

The interviewee #1 has stated that NSB Company has held the ISO 14001 certificate since 2005. The energy management of NSB strongly contributes to this. There are three priorities to reduce CO2 emissions:

- 1) Fill up trains;

The more people NSB transports, the more environmentally friendly NSB is. NSB has many initiatives to attract people; to make train travel as efficient and smart as possible, from marketing, digital ticketing, entertainment on board, and efficient stops as stations.

NSB Annual Report 2015 says that the company assesses its operations delivered in 2015 quite well. Good results have contributed to continuation of investments to increase the services. The company expects its traffic growth in 2016. “The annual report shows that the company has good financial statements after strong growth in traffic in 2015. The reason for the growth in traffic is twofold. A good year for tourism resulted in an increase in the number of passengers travelling on our regional trains. In addition, an extended train service, primarily in the eastern region of Norway, has resulted in many more passengers. NSB has worked for several years to achieve a 10-minute departure frequency between Asker and Lillestrøm and 2015 was the first full year with such a service. Sørlandsbanen, the south coast service, and the extended Trønderbanen through Trondheim to Melhus are other examples of lines with more frequent departures during 2015. Increased services have resulted in more passengers here as well” (NSB Annual report 2015, <http://www.nsbkonsernet.no/en/finance/annual-reports>).

2) Drive energy efficiently with energy efficient trains;

NSB makes strict environment and energy requirements when purchasing new trains (following UIC Leaflet 345 and Technical Recommendation 100_001). Each train driver has an individual tool which informs about his/her energy performance. “The new digital tool «My Energy» makes it easier for the train driver to reduce electrical energy consumption and improve punctuality. Through this app, train drivers can also send tips to each other, discuss driving techniques and become more aware of their own performance”. Energy efficient driving is a part of the driver’s education” (NSB Annual report 2015, <http://www.nsbkonsernet.no/en/finance/annual-reports>).

3) Buy energy with certificates of origins

NSB purchases energy via the infrastructure manager, Jernbaneverket. NSB requires that this energy is renewable with certificated origin. NSB has energy management for all buildings, and new buildings are built according to Energy class A or B Excellence.

NSB has reduced the energy consumption of passenger train services by 40 % since 2004. The ambitious goal now is to reduce energy consumption by 15 % by 2017 (with 2013 as the basis year). NSB is on track to reach this goal due to the energy efficiency of the new trains and the drivers’ energy saving tool.

Environmentally friendly technologies

The new train type of NSB has applied especially strict requirements to its energy performance. This implies the latest modern technology from the supplier. The energy efficiently driving tool for drivers is an application in the tablet; the working tool given to all drivers as a result of NSBs process of digitalization.

NSB also drive some diesel trains. Different solutions to reduce emissions from these diesel trains have been tested during the years, including bio-diesel and filters. So far none of these have been implemented into daily production. Some of the diesel trains are 40 years old, and need lots of care and maintenance. NSB's priority is to keep them running as long as needed, and to focus on requirements and technological possibilities for the next generation trains to drive on non-electrified routes.

Polluter pays principle

It turned out that most of the trains that are in use are electric trains only and they are operating in the most populated areas. The air pollution is hardly an issue for NSB with electric trains. Diesel trains are running only in less populated areas. Thus, there has not been noticed a need to follow a polluter pay principle as the company does not cause extra harm to the air. The company also has not experienced extra payment for air pollution for the last decade.

Policy on reducing greenhouse gas emissions

The policy of NSB is to reduce energy consumption and increase energy efficiency. In this way, NSB does not rest on its "renewable energy on electric trains" laurel. NSB does also apply to the Environmental targets set by the European rail sector, a work led by UIC and CER (Community of European Railways).

"The Community of European Railway and Infrastructure Companies (CER) brings together more than 70 railway undertakings, their national associations as well as infrastructure managers and vehicle leasing companies. The membership is made up of long-established bodies, new entrants and both private and public enterprises, representing 73% of the rail network length, 80% of the rail freight business and about 96% of rail passenger operations in EU, EFTA and EU accession countries. CER represents the interests of its members towards EU policy makers and transport stakeholders, advocating rail as the backbone of a competitive and sustainable transport system in Europe" (Rail Transport and Environment: facts and figures 2015, <http://www.cer.be/sites/default/files/publication/Facts%20and%20figures%202014.pdf>).

“UIC, the International Railway Association founded in 1922, counts 240 members across 5 continents, including railway companies, infrastructure managers & rail-related transport operators & research institutes. UIC’s members represent over 1 million kilometers of tracks, 2,900 billion passenger-km, 10,000 billion tonne-km and a workforce of 7 million railway staff. The UIC mission is to promote rail transport at world level and meet the challenges of mobility and sustainable development. The UIC Energy Environment & Sustainability (EES) Platform manages 5 expert networks (Energy & CO2, emissions, Sustainable Mobility, Noise and Sustainable Land USE) and a portfolio of projects focusing on the development of best practice, benchmarking for environmental sustainability and reporting of corporate and social responsibility” (Rail Transport and Environment: facts and figures 2015, <http://www.cer.be/sites/default/files/publication/Facts%20and%20figures%202014.pdf>).

Thus, NSB Company is committed to follow the targets set by CER and UIC organizations on the sustainability issues in rail transport sector to reduce harmful emissions into the atmosphere. The new CER and UIC booklet 2015 on rail and environment points out that “increasing the modal share of rail in line with 2011 Transport White Paper targets would result in an estimated reduction of 238 million tones of CO2 a year, equivalent to 19% of EU27 transport emissions in 2010. The new booklet aims to support decision makers with comprehensive data on the environmental impact of the different transport modes. It demonstrates that rail is an enabling factor for sustainable mobility because it is one of the most energy-efficient modes of transport and generates significantly lower CO2 emissions than other modes” (Rail Transport and Environment: facts and figures 2015, <http://www.cer.be/sites/default/files/publication/Facts%20and%20figures%202014.pdf>).

Emergency response system

NSB has a risk management system and readiness plan for cases which include acute pollution, though the risks are (mainly) pollution to soil (or water). The safety director is responsible for this.

The risk management system for NSB Passenger Transport follows ERA’s Common safety methods for risk assessment and evaluation, i.e all changes in the organization, operation an equipment are evaluated regarding effect on risk connected to traffic safety and security. In

addition NSB has a system for management reviews of the risk connected to the transport of passenger activities.

The company has established a readiness plan addressing all kind of emergencies / incidents. The preparedness plan for the NSB Passenger Transport is based on the 4 national principles of preparedness: responsibility, equality, closeness and coordination. The company has focused on the equality principle; which means that the organization handling a crisis / emergency, are the same organization responsible for the daily operation which may be supplied with resources and specific competence according to the demand caused by the complexity and scope of the emergency / incident.

Pollution control inspections

NSB Company actively follows the international standards. The ISO 14001 is one of the most important in the area of environmental protection. It implies inspections of the environmental performance, including pollution. There are about six inspections a year. Inspections of pollutions to soil are also performed by the property management company of NSB and the infrastructure manager. NSB Company has not experienced a bad reputation after being inspected. It has had an offensive strategy in cleaning polluted soils. This means that NSB has been working on polluted soils before they came to public attention.

ISO 14001 is an internationally agreed standard that sets out the requirements for an environmental management system. It helps organizations improve their environmental performance through more efficient use of resources and reduction of waste, gaining a competitive advantage and the trust of stakeholders. ISO 14001:2015 sets out the criteria for an environmental management system and can be certified to. It maps out a framework that a company or organization can follow to set up an effective environmental management system. It can be used by any organization regardless of its activity or sector. Using ISO 14001:2015 can provide assurance to company management and employees as well as external stakeholders that environmental impact is being measured and improved (ISO official website).

Evidence on pollution of great risk

It has turned out that NSB Company has experienced a great risk of soil pollution. Historically speaking, risk management of polluted soil was the first environmental theme which

was given a high level attention. Most of the work done within this area today is cleansing of historic pollution in areas used for maintenance of trains.

Mantena Company is responsible for the maintenance of trains in the NSB Group. NSB is being of the largest customers of Mantena Company. Besides, the fact that polluted soil is a constant issue which always requires treatment, Mantena is claiming itself to be environmentally certified according to ISO 14001 and was recertified in 2015. No serious environmental emissions have been registered during the year. Mantena works continuously to reduce the use of environmentally harmful chemicals. Mantena also works on introducing new technologies in its operations in order to reduce the negative impact on soil. It focuses on strengthening the technical expertise and working with innovative ideas in the development of maintenance of rolling stock.

Increase capacity and quality

Oslo is the fastest growing city in Europe today in terms of population. A decade ago, NSB did foresee the growth in transport demand which would accompany such a population growth. Therefore NSB started preparing for capacity growth by developing new routes and time tables, and ordering new and more trains. NSB has been and is also lobbying for development of new and improved infrastructure and capacity.

NSB annual report shows that in order to meet the population growth and demand from population, the company works on introducing more trains. Despite the fact that more trains were launched and of bigger size, some areas are got much crowded in a rush hour, for example in eastern Norway. To solve this issue NSB has bought 44 new trains. So, the company expects to put these new trains in service every month up to 2020. The old trains in Voss and Gjøvik lines will be replaced with new ones, as well as other eastern lines.

One of the important parts of NSB development is also the digital services. Most customers prefer to pay for their tickets through the company's app. It has constant improvements and additional services. NSB launched the last version of the app which can be found on "tidr.no", and is popular in Østfold. This digital app is comfortable for customers to look for all the necessary routes by different transport everywhere in Norway.

NSB annual report also shows that it is relevant for company to improve its train services. Compared with 2015, the company aims to make the services even better. It wants to

improve connection from Østfoldbanen which is on the south-east through Oslo to Bærum and Asker which is on the west. The company also wants to launch more departures to avoid crowds in rush hours; as for example it has been done in Hamar in 2015 and ready for 2016.

NSB puts also its goal to better develop alternative journey. Upgrading by Jernbaneverket, the infrastructure owner, affects the predictability of the train service supplied by NSB, due to both planned and unplanned disruptions. When surveyed the customers single out this type of disruption as most problematic. Providing alternative transport as soon as the need occurs has therefore a high priority. For the customer this entails getting information early and personnel available to answer questions properly and suggest a good alternative route to their final destination, ideally by train if that is possible. It is nevertheless encouraging that customer feedback was noticeably more positive after the planned summer closure in 2015, compared to 2014 (NSB Annual report 2015, <http://www.nsbkonsernet.no/en/finance/annual-reports>).

While improving quality of the train services and raising capacity, NSB always takes into account the policy on reducing CO2 emissions. The policy of NSB is to increase energy efficiency. When communicating with customers, owners and the society NSB uses arguments on reduction of CO2-emissions. For example, NSB shows each customer how much emissions he/she saves on the ticket, and NSB has an emission calculator on nsb.no. In reports and marketing material NSB states how much CO2 emissions people save by train, in example compared to car.

Improving reliability and safety

Safety on trains is of highest priority for NSB. Improving reliability is also of high priority for NSB, strongly depending on – and in cooperation with - the infrastructure manager. The infrastructure needs to be upgraded and to be further developed to increase the performance of today and the capacity in the future. The signaling system needs to be strengthened and updated. This is the responsibility of the infrastructure manager. NSB has a quality system which includes reliability. The work on reliability includes improving data, reporting and communication. “Union representatives and dedicated safety employees cooperate well in important areas such as working environment, rehabilitation and drug prevention”(NSB Annual report 2015, <http://www.nsbkonsernet.no/en/finance/annual-reports>).

4.3.2. Interviewee #2 from RZD Company

Climate policy instruments

The interviewee #2 has stated that one of the main tasks of RZD to reduce environmental impact is the realization of the Environmental Strategy up to 2017 and for the perspective 2030 which is written in the separate document and contains all the information concerning different sources of contamination and the measures how to reduce it. Second is to introduce the innovative technologies to provide air and water protection, to raise the usage of waste products and waste disposal, to reduce the greenhouse gas emissions and noise impact. Third, it is to modernize the system of environmental management. Forth, it is to provide the monitoring of the environmental impact. Fifth, it is the introduction of ecological management system ISO 140001. And also the introduction of “green standards” and the automated control system “Ecology” by RZD Company.

In collaboration with the Centre of industrial cooperation of the United Nations (UNIDO) and with the assistance of the Global environment facility, RZD has started implementation of the project "Environmentally safe cleaning of persistent organic compounds and disposal of equipment containing polychlorinated biphenyls". This is a pilot project in Russia in the framework of the Stockholm Convention. The results will be the basis to spread the acquired experience in enterprises of other industries. The President of JSC "RZD" Yakunin V. I. and Director-General of UNIDO, Mr. Li Yong signed a joint Declaration of support and promotion of environmentally sustainable solutions in the Russian Federation.

The interviewee #2 has stated that RZD Company has reached a significant success in reducing harmful emissions for the last seven years and has proved it with the exact numbers taken from the internal recording of the company. The main indicators of environmental activities were defined by RZD Company according to the results of 2015 (See figures below above). The harmful emissions from the stationary sources into the atmosphere were reduced on 5000 tons (5, 9%) comparing with the previous year. The contaminated water emissions into the clean water sources were reduced on 1, 3 million m³ (11%), and the share of waste involvement into the economic turnover was increased on 1%.



Figure 6. The dynamics of CO2 emissions reduction into the atmosphere from the stationary sources



Figure 7. The dynamics of polluted waste water reduction into the water sources



Figure 8. The share of waste disposal and involvement into the economic turnover

In 2017 the company expects the reduction of emissions into the atmosphere from the stationary sources on 4, 3%. It also plans to eliminate the waste water emissions into clean water sources without cleaning and to reduce the waste water emissions on 2, 1 %. The company also expects the reduction of greenhouse gas emissions on 100 thousand tons annually.

Environmentally friendly technologies

The interviewee #2 has stated that RZD supports approaches to environmental issues based on the principle "to do no harm" and the company implements the measures aimed at increasing responsibility for the environment, develops and distributes environmentally friendly technologies. The implementation of these approaches is described in the Environmental strategy of JSC "RZD" for the period to 2017 and for the period until 2030 which covers complex environmental issues. The purpose of the strategy is lowering the impact of all company's activities on the environment by the year 2030 in 2 times, the priority is "green technologies".

Reduction of air pollution is achieved through the construction of new and reconstruction of existing boilers, using environmentally friendly types of fuel, improve combustion efficiency, the introduction of electrical heating, reconstruction of existing gas equipment, introduction of new technologies for cleaning and trapping harmful substances, the use of renewable energy.

Water waste is reduced by its irrational use, wide introduction of water saving technologies, water recycling systems and reuse of water regulation and the instrument account of water consumption.

RZD Sustainability Report 2014 says that all branches of RZD Company on a monthly basis starting from July 2013 held an ecological action "Green Friday" aimed at saving energy resources, reducing emissions of pollutants into the atmosphere, minimize water consumption, reducing waste disposal, fostering ecological culture. As a result of these actions during the year:

- planted more than 20 thousand trees and bushes;
- green area was spreaded on 229 hectares.
- the area of 31 hectares was cleaned;
- collected and transported to landfills for more than 10 thousand tons of waste;
- reduced consumption of fuel and energy resources for 2,5 thousand tons.
- reduced emissions of harmful substances into the atmosphere by 0.5 thousand tons;
- reduced electricity consumption by 3.3 million kWh.

Polluter pays principle

RZD Company's activities are very large and the company follows a polluter pay principle by making payments for environment pollution annually. In 2013, the current costs of JSC "RZD" in the field of environmental protection was amounted to 2.63 billion rubles, which is that minimum of finances that allows RZD to work without the risk of imposition of the restrictions and prohibitions on the activities of environmentally unsafe objects from the government.

The amount of environmental charges that were accrued to JSC "RZD" for environmental pollution was amounted 226.1 million rubles in 2013. The share of excessive payments for the company was amounted to 47.1 million rubles in 2013. The payment for waste accommodation has the largest share in both payments – normative and excessive (See Figure below).

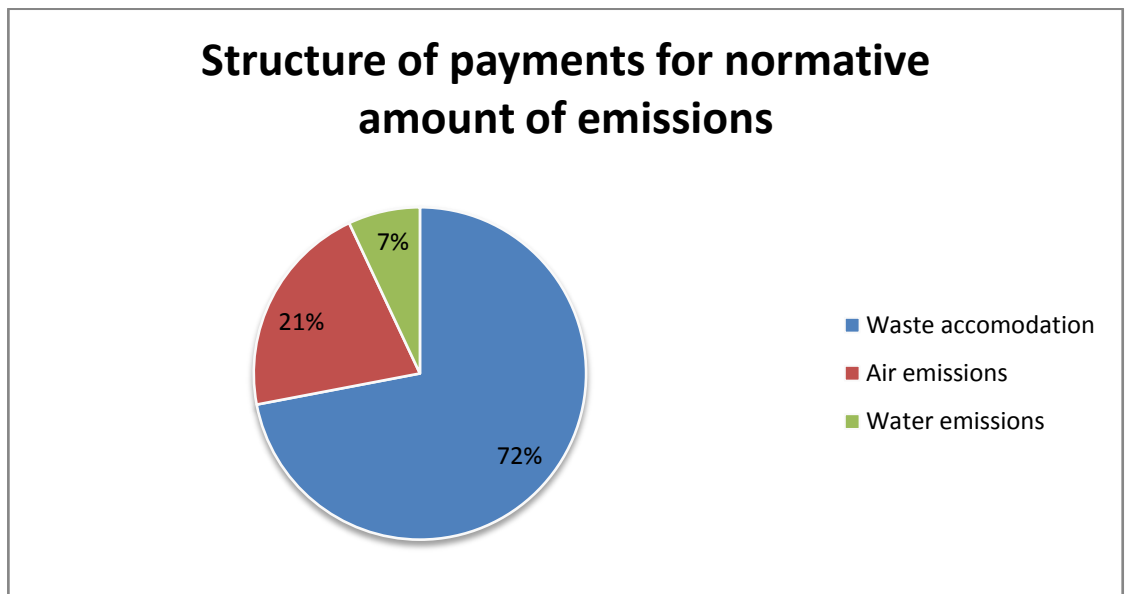


Figure 9. Structure of payments for normative amount of emissions, 2013

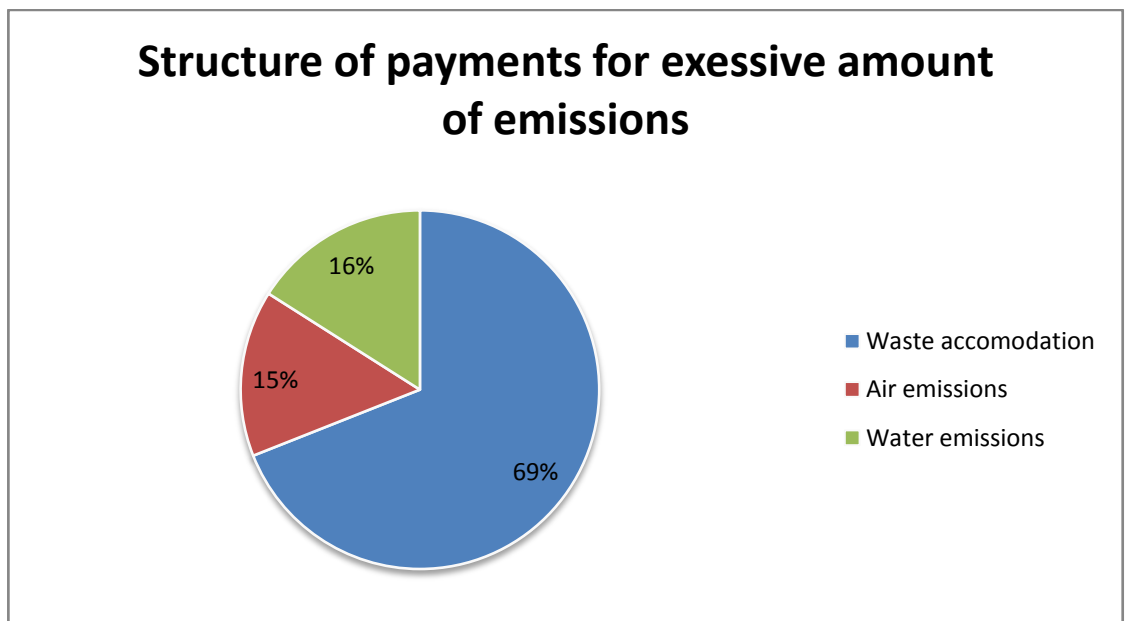


Figure 10. Structure of payments for excessive amount of emissions, 2013

Thus, especially relevant today is the issue of environmental risk management. Because the government expects to tighten the requirements for environmental protection. And the environmental payments of JSC "RZD" in the near future may increase tenfold. In this case, environmental financial risks for JSC "Russian Railways" increase many times, which could significantly affect the financial stability and reputation of JSC "RZD".

Policy on reducing greenhouse gas emissions

The main target of the company is to introduce new modern solutions and environmentally friendly technologies which will allow using energy as efficient as possible. The plans for the environmental protection and measures how to reduce emissions are written in the “Environmental Strategy up to 2017 and for the perspective 2030” as I have already mentioned above.

The reduction of annual greenhouse gas emissions in the period from is reached through usage of a natural gas in boilers and more environmentally friendly engines of diesel locomotives, the increased usage of electric power for passenger and cargo transportation and energy efficiency of diesel locomotives.

RZD is constantly looking for ways of the effective use of all resources and reduction of anthropogenic impact on the environment. Currently, the environmental safety of RZD is characterized by the stable dynamics of reduction of the negative impact of economic activities on the environment, primarily through the implementation of environmental programmes, investment projects and technical re-equipment and improvement of the existing system of environmental management.

Negative impacts

The interviewee #2 has explained that the negative impacts that the company causes are water, air and noise pollution as well as the waste turnover. Thus, the emissions of harmful substances into the atmosphere by RZD from all sources amounted 349,0 thousand tons in 2013 including: stationary sources - 83,9 thousand tons, from mobile sources - 265,1 thousand tons, motor vehicles - 54,5 thousand tons, special self-propelled rolling stock - 10,5 thousand tons. As the interviewee #2 has already mentioned that the reduction of air pollution is achieved through the construction of new and reconstruction of existing boilers, using environmentally friendly types of fuel, improve combustion efficiency, the introduction of electrical heating, reconstruction of existing gas equipment, introduction of new technologies for cleaning and trapping harmful substances, the use of renewable energy.

Noise and vibration are key factors of negative impact on living organisms and human health. Reduction of acoustic impact by RZD is an important aspect of activity in the field of environmental protection. The company aims to ensure a compliance of the level of acoustic

impacts on environment to the standards, including the identification and use of the most effective technology of protection against noise.

Total water use by all subdivisions of RZD in 2013 amounted to 111,91 million m³, including: household needs 54,95 million m³ production needs – 49,16 million m³, other goals – 7.8 million m³. Water waste is reduced by its irrational use, wide introduction of water saving technologies, water recycling systems and reuse of water regulation and the instrument account of water consumption.

During the economic activity of RZD about 600 items of waste are formed. Most of them are not dangerous, and the percent of dangerous and high dangerous waste is very low (0, 04% in 2013). Waste disposal and its involvement into other economic activities have been increased very stable since 2009. The use of waste was carried out mainly in industrial processes as sources of fuel, raw materials and secondary materials.

Pollution control inspections

RZD as an environmentally-oriented company applies the mechanisms for voluntary environmental responsibility. There are around 10 inspections annually within the company. In 2012 - 2014 70 structural divisions, providing high-speed speed Moscow – St. Petersburg (certified in 2011), passed the test certifier for compliance with the requirements of GOST R ISO 14001 "Environmental Management System". In 2014 the decree of the President of JSC "RZD" approved the Program of measures for implementation of environmental management system in accordance with the requirements of standard GOST R ISO 14001-2007.

GOST R 14001-2007 ISO specifies requirements for an environmental management system enabling an organization to develop and implement environmental policy and objectives taking into account legislative and other requirements which the organization has committed to perform. The standard lists the information about significant environmental aspects.

Evidence on pollution of great risk

Basically the company constantly causes a risk for the environment and society by polluting soil and air. The pollution of soil occurs because of the spills of dangerous freights. It is difficult to charge all the branches of RZD Company around Russia how strong the risk of spills is as it is also difficult to follow how often they occur annually.

It is established that JSC "Russian Railways" has a license to carry out activity on the transport by rail the dangerous goods in connection with which, the Railways is obliged to abide

by the rules and conditions of carriage of goods, established by the Federal law. However, the law was not followed several times and the company was brought to the justice by the higher authorities.

Thus, in 2015 the company was brought to the administrative justice because of the transportation of dangerous goods on a commercial basis in violation of the conditions of license for activities on the transport by rail of dangerous goods. The spill occurred on the "Agryz" rail station (Gor'kovskaya railways) because of the excessive speed by the train that has led to the spill of dangerous freight – kerosene. The punishment to the company was assigned in the form of warning.

The same year, the company was brought also to the administrative justice in the area of Gor'kovskaya railways (Udmurtia) – Yudino-Agryz – because of the detection of poor equipment. It was revealed that the some of the pair of wheels had been got off the wagon during the train motion. The punishment has been set in the form of 100 000 rubles to be payed.

Moreover, just recently the court of appeal has confirmed the legality of prosecuting RZD Company for the lack of permits for the emissions into the atmosphere. RZD had violated environmental requirements in the field of protection of atmospheric air consisting in the absence of permits for emissions of harmful substances into the atmosphere among six separate from each other production areas. Each production area was assigned the appropriate payment according to the administrative justice.

There is also evidence on the criminal persecution within the RZD branches which also includes corruption issues.

Increase capacity and quality

In order to gain customers loyalty RZD constantly works on the improvement of quality of the railway transport services and to increase its share. The company gives priority to the innovations in the infrastructure complex where the share of expenses from all RZD activities counts to 35%. The company reconstructs the railways for the high speed trains, introduces the new mobile devices to diagnose the ways, as well as the introduction of new diagnosis system onboard of the "Sapsan" wagons, and creates new locomotives based on innovative technologies. The share of procurement of innovative and high-tech products has reached 9 % in 2014.

One of the important steps to raise the capacity of the rail services is to create an integrated system of speed and high speed interregional railways. This decision helps the company to raise the effectiveness of the railway system in general and to be enough strong

competitors with the automobile transport. It includes the development of the infrastructure and transport connection of several regions of Russia, the Far East and Siberia in particular.

One of the important steps to improve the quality of transport services by the company is to shift itself to being more client-oriented organization. Reliance on the customer needs gives the company additional opportunities for the development and reduction of costs. This is especially important during a recession of the traffic volume. Within this strategy, the Department of business development and customer focus has been developed and has its aim to create a corporate system of internal and external customer focus, enshrining common principles, approaches, systems, methods and indicators to measure results in this area all subdivisions of RZD.

While increasing capacity and improving quality of the transport services the company does take into account the sustainability issues including the issue of pollution with harmful emissions. Thus, the company aims its environmental policy on the efficient use of resources and resource saving, introduces the programs on energy efficiency and energy saving, works on efficient fuel consumption which includes the use of electro energy for electric trains, recovery of electro energy, the consumption of fuel for non-tractive needs, the use of fuel and energy resources by heat-generating equipment. RZD also provides environmental management which assumes the environmental monitoring.

Improving reliability and safety

While the introduction of the innovative technologies in infrastructure complex is one of the most important in raising capacity within rail transport sector, the reliability of equipment and safety within transportation process are of high significance. The strategy for guaranteed security and reliability of the transport process in the Russian Railways is based on the construction of effective safety management systems of transportation which are based on the tools of risk management and principles of formation of culture of traffic safety.

The Strategy identifies basic principles and security policy of the company, primarily through the formation of security standards, forms and approaches of safety culture and implementation of both internal and external exchange of information in matters of traffic safety.

To realize the strategy the company has been successfully provided the estimations of the parameters of the accident rate reduction. The company has set the appropriate level of transportation safety which is the basis for the further activities in the field of safe transportation standards.

4.4. Results of observation

Since the observation technique has been also set as the additional data collection method, I have visited the railway stations of Bodø, Norway and Saint-Petersburg, Russia in order to find some evidence of environmentally friendly development of the railway systems based on my own findings. The main goal of observation technique was also to figure out if the company makes people to be aware that its operations are clean and the company concerns about environmental protection and reduction of harmful emissions in particular. Thus, this small part of the research contains the results of the observation being implemented by myself on the railway stations in Russia and Norway.

4.4.1. Observation in Norwegian rail station, Bodø

Based on the findings on the railway station in Bodø, I can mention that there was not found any physical evidence that the company show its customers how clean its operations and that it concerns about the environment protection by reducing the impact of harmful emissions.

However, the company informs its customers on their official website about their concerns about the environment and that the customers choosing the railway transport contribute to the cleaner environment. As the railway transport is one of the most energy saving types of transport and it emits much less harmful substances than road transport in the first turn. The company shows people how much harmful emissions they can save by calculating it on the official website of NSB when buying a ticket and to compare it to the car emissions. The company also has the marketing publications where they state its environmentally friendly way of operating on the railway market. However, there was not noticed any publications about clean operations on the railway station in Bodø but some pictures representing clean environment were found on the walls next to the time schedules of the trains. The promotion of the digital services was also found on the railway station. This includes the small booklets with the information about the advantages being NSB customer and the comfort buying online.

4.4.2. Observation in Russian rail station, Saint-Petersburg

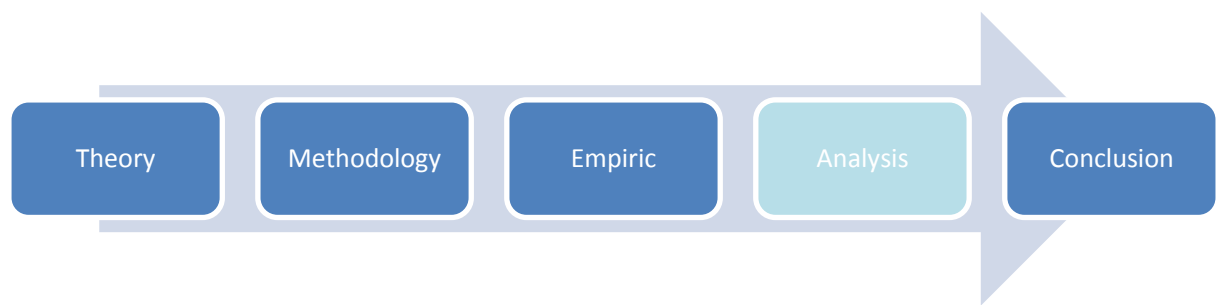
Having also visited the Moscow railway station in Saint-Petersburg and being a loyal customer of RZD Company, I did several conclusions based on the findings. I figured out that all the plastic package and tableware which is used in the high speed trains “Sapsan” is completely replaced with the ecologically clean package and tableware, and since 2014 the new environmental project has been introduced by the RZD Directorate which aim is to collect waste separately. I can also mention that I noticed the ecological labels on the electro trains in the

Sverdlovskiy district of Russia based on my own experience of travelling. The green labels were found on the outside and inside part of the train which show that the company is responsible for the environmental protection and does all the possible to contribute to its conservation. There are also running electronic lines inside the wagons which show different slogans such like “Save nature – dispose waste!”, “Save the earth for further generations!”, “No future with contaminated planet!”, “Keep clean the wagon while travelling!” and others. These electronic lines also inform the customers about the environmental concerns by the company and its responsibility in front of society.

It was also found out that almost all the wagons of RZD Company have bio rest rooms. There are still several trains which do not have bio rest rooms but this number is currently decreasing as the company claims itself being an ecologically clean one and taking care about nature.

The company also shows the society that it concerns about environment conservation and spreads the small stickers on inside door in every wagon which says “To nature with love” in combination on the sticker with a clean green leaf that represents the clean environment the company strives to support.

The chief manager of the train in the direction “Saint-Petersburg – Izevsk” has also claimed that the company is currently transferring to use only electric trains and the number of diesel trains is decreasing.



5. Analytical part

The analytical part of my thesis contains the findings during the research and conclusions made to the findings. The present findings are reflected on the theoretical framework of the studied phenomenon and the attempt to answer the research question of the thesis was done. The present findings support the theories offered for the studied phenomenon and made contributions to the existing theoretical knowledge based on the research experience.

5.1. Conformation process

As my research study is based on the institutional theory, it is relevant to make reflections on the existing knowledge. I base my research experience on the theory of Meyer and Rowan (1997) and according to their theory I can conclude that there is a certain institutional environment in both countries – Russia and Norway – which is build from a variety of normative regulations on sustainable development and CO2 reduction emissions policy in particular. These regulations were created by the higher authorities in both countries in order to control environment pollution and create the policies how to reduce the negative impact on the environment. The regulations by Norwegian and Russian governments were created from the influence of the higher power which controls the international affairs in terms of environment conservation.

It is widely known that the sustainable development of our planet can be achieved only in collaboration of all countries together. The power from the very top of international affairs in environment conservation spreads the requirements and directions in governmental policies to the countries which are interested in sustainable development. Russia and Norway are the countries that actively collaborate with other countries and take part in sustainable development. Thus, both Norwegian and Russian governments expect their organizations that might have a negative impact on the environment – NSB and RZD in the passenger rail transport sector - to follow the policies on environment conservation.

NSB and RZD Companies in their turn develop themselves taking into account a strong sustainable development policy which includes measures on CO2 emissions reduction into the atmosphere. After analyzing the conformation to regulations on CO2 emissions reduction set by both governments I can conclude that both companies claim themselves being sustainability-oriented, they follow the present requirements from the higher authorities; they build their strategies in accordance with these regulations and work on further improvement on the reduction of harmful emissions from their operations.

The power of international requirements for all the countries to achieve sustainable development comes from the United Nations which was the first organization concerned globally about the environment conservation and the first one which has conducted the conference about the environmental issues in Stockholm and has set the United Nations Environment Program. This program is aimed to create and provide measures to protect the environment and improve it for present and the future generations. The initiatives of the United Nations have led to the creation of the World Commission on Environment and Development (WCED) which is also named Brundtland Commission; and the introduction of The Montreal Protocol on Substances That Deplete the Ozone Layer and The Basel Convention. The main goal of WCED is to unite all countries together to pursue a sustainable development of our planet.

The purpose of these organizations is to create the society which will be sustainability oriented globally. The global sustainable development can be achieved only in collaboration of all the countries together and the quality of the supplier of goods and services plays a very important role in the overall development of the countries. Thus, the world standards which contain the requirements to the environmental management system were introduced for all the organizations to follow. These standards are published by the International Organization for Standardization (ISO official website). Following the international standards ISO14001 is the part of progressive policy on CO2 emissions reduction in both companies – NSB and RZD Companies.

To have a clear understanding of my analysis, I have composed the scheme. The figure shows four step of my analysis and they are part of the analytical part as well. The first step is to define if the organizations conform to the institutional requirements or not; on the second step I define the type of conformation; on the third step I explain the theory of institutional isomorphism I based my research on and determine the type of institutional isomorphism; and on

the fourth step I explain the role of stakeholders involved into the conformation process (See the Figure below).

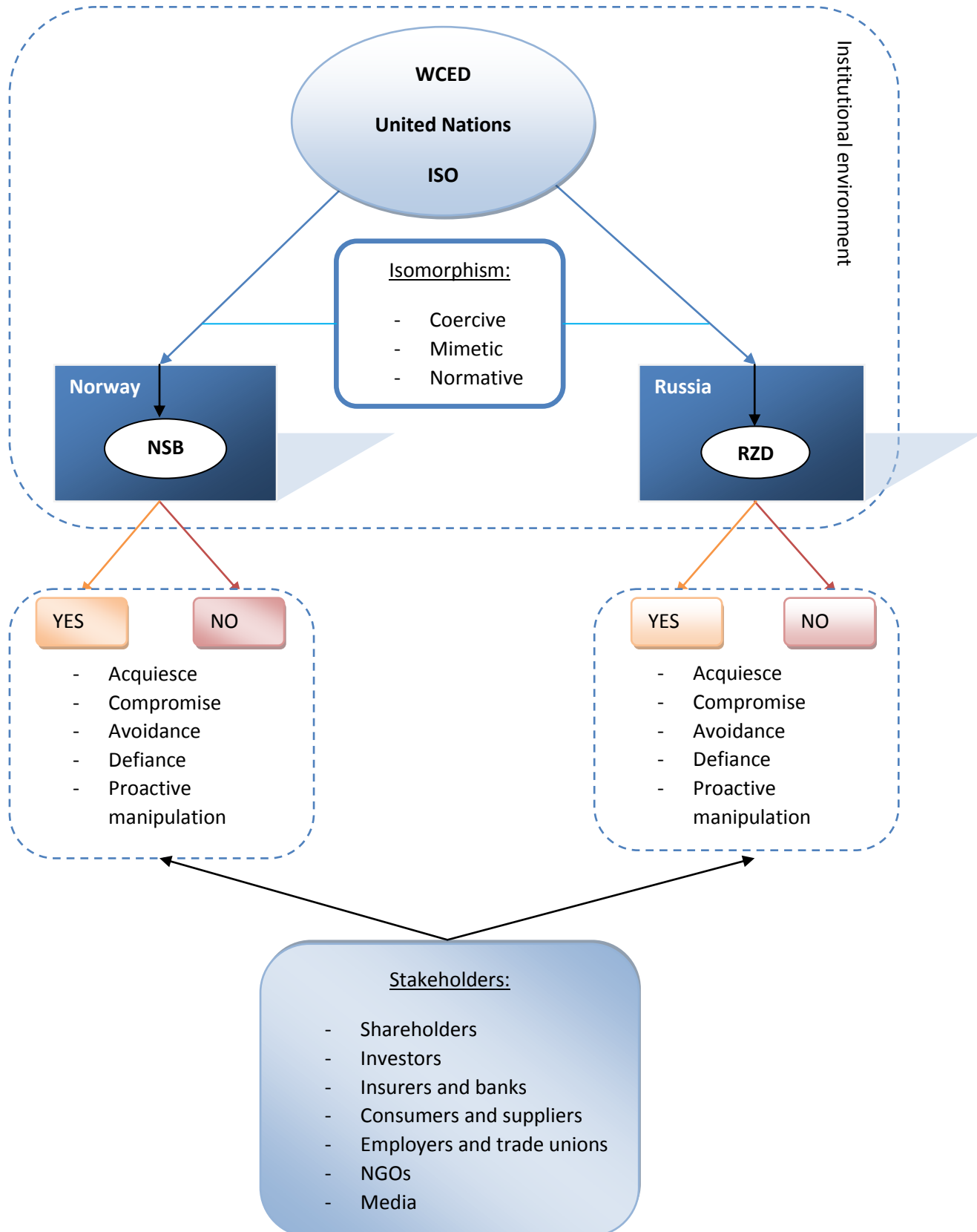


Figure 11. Analysis plan

Thus, the institutional environment within which the studied companies operate is very complex and has different organizations responsible for global sustainable development, and each of them issues their own regulations for organizations to follow. According to the Meyer and Rowan (1977) theory, NSB and RZD exist and develop themselves in accordance with the world standards on sustainable development, and form themselves based on the globally accepted norms of organizational structure.

5.2. Type of conformation process

However, the companies may respond to the conformation process in different ways. According to the Oliver (1991) theory of different types of conformation I can conclude that NSB Company passively conform to the norm system of institutional environment and has an “acquiesce” type of strategic responses. The company entirely follows all the regulations prescribed by the Ministry of Climate and the Environment, and the Ministry of Transport and Communications.

Thus, after analyzing the documents written for the environmental management in Norway, NSB annual report and the results that I have received from the interviewee #1, I can conclude that the company is consciously obedient to the set norms and regulations in the sphere of environment conservation and the policy on CO2 emissions reduction. NSB is currently working on the climate policy instruments how to reduce CO2 emissions into the atmosphere and complies with the international standards on environmental conservation ISO 14001 in combination with the energy management system. It also has environmentally friendly technologies which allow controlling emissions more properly, and the company does not exert hard air pollution as most of the trains are electric in NSB. The company’s main goal is to reduce energy consumption and increase energy efficiency. It also has an advanced emergency response system to prevent pollution and annual inspections that the company runs with success. Despite the fact that NSB caused a serious pollution for soil, the risk management of the company works on the improvement of its operations and reduces the risk of pollution; thus for the last several years no serious soil pollution has been noticed.

According to the theory of Meyer, Scott and Strang (1987), NSB Company has a structural compliance as it elaborates different structures within the company and employ the administrative measures, such as risk management system and readiness plan for example, in

order to respond to the external environment. As the external environment is complex and has its changes in the environmental legislation, the Norwegian Ministry of Climate and the Environment also updates the white papers in accordance with these changes, and NSB is obedient to follow it.

However, according to the theory of DiMaggio (1988), Meyer and Rowan (1983) and Pfeffer and Salancik (1978), NSB deliberately and strategically chooses to comply with the regulations of external pressures because it expects its benefits from society. By implementing the appropriate environmental laws the company gains enhanced legitimacy, increased stability, good will and confidence in the eyes of customers. The company expects to raise its competitiveness compared with the road transport by increasing capacity and quality of electric transport services as well as improving safety and reliability. Thus, it wants to attract more customers in its operations that in its turn will lead to the financial benefits of the company.

When at the same time, I can conclude that RZD Company avoids conformity with a tactic of concealment in its strategic responses to external pressures of institutional environment. The company employs all the measures to follow the regulations but at the same time it hides its nonconformity by showing the implementation of all these measures. According to the theory of Scott (1983) and Zucker (1983) the implementation of CO2 emissions reduction policy at RZD Company is apparent rather than real. They consider the difference between apparent and real conformity to be a theoretically important dichotomy.

After analyzing the corresponding regulations applied on the Russian railways and the results of the interviewee #2 combined with the study of RZD Sustainability report, I can state that the company shows all the evidence of implementing the regulations set by the Ministry of Transport and Communications, and the Ministry of Climate and the Environment. It has introduced the separate ecological strategy on the period up to 2017 that contains all the climate policy instruments aimed at environmental impact reduction. The company gives priority to the green technologies to control air and water pollution; and develops new mechanisms how to improve its operations in terms of raising ecology and using energy as efficient as it is possible. RZD also follows the international standards on the environmental management ISO 14001. And while increasing capacity and quality of rail transport services it takes into account the sustainability issues. But at the same time, within this implementation of the governmental requirements RZD has a lot of payments for excessive pollution which amounts to almost one

fourth of the total amount of normative payments covering pollution expenses. If to compare with NSB Company which mostly have a negative impact only on soil because of the maintenance activities, RZD Company also exerts negative impacts on air, water, noise pollution and waste turnover. RZD is currently working on increasing part of electric trains but there is still a large share of diesel trains. Moreover, the company has been noticed several times causing air and soil pollution of great risk by spilling dangerous freights. RZD Company has been brought to the administrative justice due to the failures of environmental conformation. Thus, the company is likely to have an apparent conformation but not real in order to attain legitimacy from society and institutional environment; and also to attract more customers by showing its interest to environmental conservation.

5.3. Institutional isomorphism

According to the theory of Meyer and Rowan (1977) both companies conform or show its conformation not only because they are forced to follow the requirements of the institutional pressures but also because they can gain some reward from the society such as enhanced legitimacy and more customers that both companies – NSB and RZD- desire. In this case it is relevant to look for other processes that may force the organizations to conform the set requirements of the higher power. That is why; I analyze the companies in the light of institutional isomorphism theory (DiMaggio and Powell, 1983).

According to the institutional theory largely offered by Meyer and Scott (1983) I can admit that NSB and RZD Companies as the main rail passenger transportation companies in Norway and Russia correspondingly assimilate the dominant norm system in the field of sustainability and CO2 emissions reduction policy in particular. This dominant norm system is imposed by the higher authorities who are responsible for the environmental issues globally such as the United Nations, the World Commission on Environment and Development (WCED) and the International Organization for Standardization (ISO). The companies are forced to follow the dominant normatively defined ways of organizational structure in order to obtain legitimacy which is essential for their survival on the market and gaining more clients who are willing to use electric transport instead of road one. Thus, NSB and RZD Companies do not tend to the efficiency among other companies on the market in order to survive; they tend to the institutional isomorphism with its normative regulations that create the organizational structure. Both organizations being in the same industry and serving the same needs but in different societies are still forced by the same one dominant external pressure that spreads its power on other similar

organizations. NSB and RZD Companies in this sense are being similar or “isomorphic” and have to conform to the prevailing regulatory standards set by the higher power. Following these regulatory standards the companies perform “ceremonial” role as they present their competence and value as a social actor. Thus, according to the Meyer and Scott (1983) theory I can conclude that the survival of these organizations depends on the institutional isomorphism with its approved methods of organizational structures.

Based on my research experience I can also add that the regulatory standards approved by the higher authorities in the field of CO2 emissions reduction make NSB and RZD companies being similar to each other and having the same objectives as DiMaggio and Powell (1991) studied. Two absolutely different companies with absolutely different organizational structures and policies but being under the same pressure, they are getting to be very similar in terms of sustainability issues. Thus, competitiveness among other rail companies does not play any role anymore for their survival because it is the governments and the international organizations, which make pressures on the governments with their globally oriented decisions; it is them who move the rationalization and bureaucratization and them who are essential for organizations’ survival. The companies compete not only to get resources and customers but to get the power from political institutions and their legitimacy to improve their social and economic advantages.

Within this theory I identify a coercive mechanism of isomorphism through which the institutional isomorphic changes occur and NSB and RZD are getting to be similar to each other in terms of CO2 emissions reduction policy. This mechanism relates to the pressure from political institutions, as I have listed some of them above – the United Nations, the World Commission on Environment and Development (WCED) and the International Organization for Standardization (ISO), and the issue of legitimacy that both companies strive to reach through complying with the environmental laws. NSB and RZD companies are pressured both as with cultural expectations from its societies as with the formal institutions which have control on them because both the companies are state-control companies and they are dependent from the governmental structures.

Such a governmental pressure is more likely to have a form of “force” than a “persuasion” or “invitation to take part in secret agreement”. NSB and RZD Companies respond directly to the governmental changes in environmental laws by implementing new measures correspondingly to the innovations in law. Both companies have their priorities in introducing

the green technologies in order to conform to the environmental regulations; they develop their climate policy instruments to reduce the environmental impact and prevent the climate change.

Thus, the theory of Meyer and Rowan (1977) has been confirmed based on my research study and I can conclude that NSB and RZD Companies always reflect the governmental changes in the environmental laws which are institutionalized and got legitimacy. In the result of this, the companies have become homogenous in terms of CO2 emissions reduction policy while they have different types of conformation though. But within the introduction of new environmental laws the companies are constrained with the technical activities and need to reconsider budgeting system and attract investments. This may cause some difficulties in the development of the organization and they usually employ controlling of credentials. However, NSB Company has claimed that it has been able to get investments into the fixed assets in order to raise the demand for electric transport by promoting electric public transport (NSB Annual report 2014). RZD Company has stated that environmental activities in the company are performed annually as a part of realized investment projects aimed at ensuring environmental safety. These investments made it real to reconstruct and build new ecologically clean facilities (RZD Sustainability Report 2015).

5.4. Stakeholder engagement

As I have discovered that the conformation process cannot be implemented in a perfect harmony and there is also other force that may have a positive or negative impact on the conformation process; I have decided that consumers of NSB and RZD Companies are one of the most powerful stakeholders. The role of consumers as the stakeholders is significant because they are the driving force for passenger rail transport companies to provide services and improve its quality. Consumers are those who keep the organizations on rail. The companies are dependent on the opinions of their consumers because any lose of customers leads to financial breakdown. And both companies are interested to attract as more consumers as possible by providing competitive services compared to road modes of transport. More and more people are now concerned about the environmental issues nowadays and the consumers who are responsible for their own impact on the environment tend to use green transport. And for them it is relevant if the organization has its own responsibility in front of environment and society or not. This is also a decisive factor for the companies – what the green consumers think about them.

The results of the survey held by the Norwegian company Synovate and published in 2014 have shown that most of the Norwegians (86%) are satisfied with the public services and they consider their country to be that one which is close to the perfect and which can provide the most comfortable conditions to live in. The Norwegian railways are in the medium of satisfaction among population (Governmentnet.no).

The results of the survey conducted by the Institute of public opinion "Anketolog" showed that the Russians are satisfied only on half with the railway transportation services. People have pointed three main disadvantages which are the old facilities, big lines on the cash desk and absence of possibilities to travel for disabled people. The results show that that the common opinion of people says that there are the same amount advantages within the rail services as disadvantages (49, 6%). However, most of the people (62, 5 %) consider the rail passenger services to be acceptable (Institute of public opinion "Anketolog" official website).

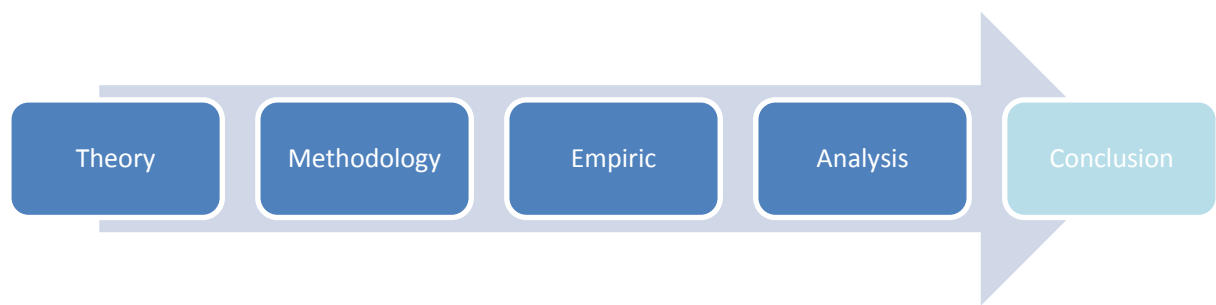
The second source of external pressure that may be exerted on the both companies is the mass media. The mass media is also very powerful because it may influence the opinion of the society. If people do not experience something by their own, they can be very trustful to the information that the media spreads about the company. Thus, I consider this source to be relevant for the conformation process as well.

As RZD Company is very large covering all the railway of Russia, it has both as positive as negative news. Mostly positive ones showing that the company has a lot of rewards about its environmental concerns. The ecological strategy which contains the implementation of all environmental issues at RZD Company is noted by the diploma "Best environmental project – 2008" of the Ministry of natural resources and ecology of the Russian Federation for an integrated approach to environmental protection. Also, 7 October 2015 in the framework of the Global forum 2015 IPLA 2-th all-Russian meeting "Ecological culture and education: Dialogue of regions", JSC "Russian Railways" was awarded the Diploma for participation in setting the record of Russia in the category "Event in the framework of the environmental socio-educational projects with the participation of representatives of the greatest number of different constituent entities of the Russian Federation". Moreover, on March 17, 2015 open JSC "RZD" received an award for the victory in the nomination "For environmentally responsible business" at the end of the all-Russian contest "Best Russian enterprises: Dynamics, efficiency, responsibility – 2014"

conducted by the Russian Union of Industrialists and entrepreneurs. And there are more other rewards published by the mass media in Russia (Interviewee #2 results).

The NSB Company has stated in their Annual report 2015 that 300 experts from the Norwegian Institute of Transport Economics (TOI) conducted the study on the efficiency of rail transport services and they concluded that more and more people are willing to use rail transport instead of road one. They also stated that the deciding share of customers at NSB is women and youngsters. The young people increasingly postpone getting their driving license and the number of people who reject using road transport is increasing as well. The experts claim that the company works on improving the infrastructure to make it possible for customers to transport as efficiently as possible and in an environmental manner.

To sum up, the consumers and mass media are the most powerful sources of exerting external pressure which are relevant to take into consideration while determining if the organizations conform to the regulations set by the higher authorities or not, and what kind of pressure they are able to exert. The consumers are significant power by themselves as the company dependent on the satisfaction by the customers, and the mass media is that power which may influence consumers' behavior.



6. Conclusion

Despite the fact that Russia and Norway both have the similar environmental regulations on CO2 emissions reduction in the rail transport sectors, there is still a significant difference in the development of these sectors correspondingly. At the present moment Russia shows a strong increase in the tendency of using more road transport over the last 10-15 years which can be explained with the fact that an electric transport can hardly meet a competition with the road transport. The lack of investments in the late 20ies has led to the obsolescence of the rolling stock, and therefore caused inability to meet the requirements of the time. While Norway has been working on green policy in rail transport sector for a long time and its indicators are quite satisfactory if to compare with Russia. Norway has been able to increase the demand for electric transport in passenger transport sector and now it is trying to raise the competitiveness of the electric transport by improving the infrastructure.

The results shows that conformation to the regulations set by the higher authorities in the area of CO2 emissions reduction is an integral part of both companies development. Under the coercive mechanism of such political institutions as the United Nations, the World Commission on Environment and Development (WCED) and the International Organization for Standardization (ISO), RZD and NSB Companies become isomorphic. They comply with the existing environmental laws as both are interested in getting the legitimacy and gain more customers on the market. That is why both companies claim themselves being sustainability oriented and concerned about the environmental issues.

However, within the institutional theory after implementing the analysis I have discovered that two isomorphic organizations following similar requirements under the same external pressure might have different types of conformation. By this, I have revealed that NSB

Company passively conforms to the institutional environment and it is obedient to the norm system, while RZD Company avoids its conformation with the concealment tactics of responses to the institutional environment. At the same time, I figure out that both organizations have an influence from such stakeholders as consumers and the media where Russian consumers reflected some negative feedback about Russian railways. Thus, the difference in the development of Norwegian and Russian rail transport sector can be explained with the different responses to the institutional environment by the companies.

6.1. Contributing to the theory and practice

Having implemented the present research study, I believe that I have contributed my experience to the institutional theory. With my research study I have proved that the organizations which become similar under the same external pressure from the political institutions tend to conform to the requirements of the normative regulations not because they need to improve their technical efficiency in order to be able to compete on the market but in order to get legitimacy which is essential for their survival. They assimilate to the norm system because now it is the state and professions which are important for organizational structure (Meyer and Rowan, 1997). I have also proved that the isomorphic changes occur through the coercive mechanism in my study. The companies are pressured with both expectations from the society and with the political institutions (DiMaggio and Powell, 1983). Within the institutional theory, I have also shown that similar organizations pursuing the same objectives may have different strategic responses to the institutional environment in order to gain legitimacy and acceptance from the customers (Oliver, 1991). I believe that I have also contributed to the stakeholder theory (Clarkson, 1995) by proving that such stakeholders as consumers and the media may cause a negative or positive impact. The opinion of green consumers may be a decisive factor for a company's success (Polonsky et al, 1992). As well as the information that is spread by the media because it can be influential for customers' opinion (Rappaport and Dillon, 1991).

6.2. Directions for further research

The present research study can be developed in several ways. In one way, the research can be continued by exploring other factors that can explain the difference in the development of Russian and Norwegian rail passenger transport sector. Other researchers can study the reasons why RZD Company uses the concealment tactics to show "apparent" conformation to the regulations and avoid "real" conformation; to explore what are the obstacles and challenges to

comply with the regulations consciously and in a passive way. This further research can also make sense if the researcher raises the question about the real investments that are done according to the governmental programs as both companies are state-owned.

In other way the further research can be implemented is if the researcher develops the practical implications from the perspective of Norwegian experience how to handle the internal challenges within the rail transport sector in Russia and apply Norwegian practices for the improvement of electric transport system and raising its competitiveness with road transport.

6.3. Personal experience

I consider this research experience to be valuable for me as I had an opportunity to explore real issues that exist on the Russian market, and that is why the research topic was interesting for me because it is actual at the present moment. I have opened for me a lot of new valuable knowledge by exploring the literature on the corresponding topic and now possess the certain knowledge in the area of rail electric transport development in Norway and Russia. I have discovered a lot of interesting facts that I used in my research and that are useful for my future in determining the area I would like to develop myself.

I appreciate the experience I have got from this research study because I had an opportunity to talk to influential people from NSB and RZD Companies which work in the sphere of sustainability and environment protection. That was of my special interest because I would like to connect my education with the corresponding sphere of employment. Thus, from our communication I have got valuable knowledge about the companies' policies how they deal with the environmental issues and develop themselves taking these issues into account.

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Appendix

Interview Guide for the employees of NSB and RZD Companies

- 1) Could you please tell me a little about yourself – How long are you working in the company? How is your position connected with the sustainable development of the company?
- 2) What are the set of climate policy instruments or measures to reduce CO2 emissions? What are the expectations on reducing CO2 emissions forward looking? Any progress so far?
- 3) What kind of environmentally friendly technologies or modern solutions does your company apply to struggle climate change?
- 4) How does your company follow a polluter pays principle in case if the emissions are above the norm?
- 5) How does the policy on reducing greenhouse gas emissions at the company look like?
- 6) How does your emergency response system in the case of acute pollution look like? Does the company have a responsible person for that? (NSB) / What kind of negative impacts does your company cause? What are the measures to dispose polluting elements? (RZD)
- 7) How often do you have a pollution control inspections?
- 8) Has the company ever caused a pollution of great risk for the environment or society?
- 9) How does the company increase the capacity and quality of the passenger railway transport system? Does it take into account the policy on reducing CO2 emissions?
- 10) How and why does the company work on improving reliability in the transport system and strengthening or maintaining the level of safety?