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Analysis of Application Management Theories and Methods for Developing Railway Transport

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Abstract

It is important to take into account the application of management theories and models for development of rail transport. During the examination of the management science, it is necessary to take into account various theories that can be applied to different fields of activity. Railway transport is a special field of activity in which attention must be paid to the specifics, asserted to diverse activities, across organizational, technological and productive aspects. Therefore, in the context of application of management principles, it is necessary to evaluate the complexity of the railway transport activity, linkages with other activities, by properly selecting the type of management and its specific theories of management application. In order to check the relevance of internationalization process management model of Lithuanian railway transport development, it was carried out an expert assessment on the expert assessment method. This method includes the expert survey questionnaires and evaluation of expert opinions compatibility and their results.

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1. Preface

Actuality: Having an integrated demand of the management and developing the railway transport activity at the international level, it is very important that this mode of transport could act effectively as an entity, to successfully integrate into the international markets, to compete in national and international markets, which would apply contemporary management and create jobs.

Railway transport organization needs to analyse constantly the quality of management activity and to assess the deviation between the management theory, models and the company's actual activity both internally and externally, as well as the expansion of the organization's activity in foreign markets. Therefore, in management point of view it is necessary to react to the impact of constantly changing environment, to the changing relationships between employers and employees and to their influencing factors.

During the examination of the development of contemporary business processes it is becoming obvious that the railway transport confront with the organization and development problems in order to respond to the challenges of contemporary business and to adapt to the prevailing business development tendencies. In the field of development and management, railway transport must be managed effectively to enhance competitiveness, flexibility, modernity, innovation and dynamism, efficient management of human and material resources. Another problem area, which should be spotlighted – having the expansion in foreign markets, it is important to consider the railway transport sector as a unanimous and integrated operating system of related elements, which as homogeneous and harmonious functioning business unit is expanding in foreign markets. It is also important to analyze the application of appropriate management methods for organizing activity in a rail transport activity.

2. Conception of management

Management in a scientific sense is the science direction concerning organizations management regularities, principles, methods, organizational mechanism [1]. In all areas activity is performed by consistent implementation of the cycle of general management functions (forecasting, planning, organization, control, coordination) [2].

Management solution is that major part in manager job, which is a source of all multidirectional and many-sided management activity. In assessing the present situation, as has already been mentioned, the management conception can be expressed as [3]:

- Governing System (*Management Subject*) – is part of the organization, causing the managed system performance. Management system formulates goals, objectives, develops and improves the organization itself, creates the necessary conditions for the functioning and motivates for the activity.
- Controlled System (*Management Object*) – is part of the organization, accepting objectives formulated by management system and implementing the tasks set.
- Management can be considered as a process [3].

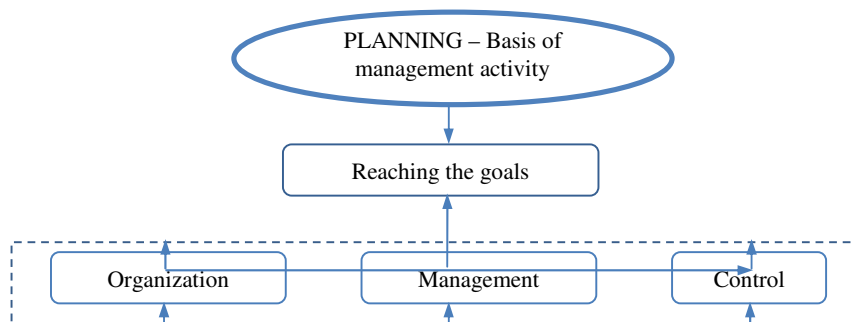


Fig. 1. The main management areas. Source: [18].

Leadership in railways activities must be treated as a cycle, consisting of specific managerial work areas, called management functions, which form a unanimous common process, i.e. management key areas: planning, organization, motivation and control (see Fig. 1).

3. Application aspects of management theory in railways activity

Scientific literature sources identify two basic management theories, having had an impact on all the other: scientific management or classical theory, the foundation created by Taylor and the folds, and human relations theory, developed by Mayo and his supporters. These theories formed the basis of another management theories and schools: an empirical theory, social systems theory, quantitative methods theory, etc.

In scientific literature sources it is attempting to draw up a summarised management theoretical potential [3]. Management theories are classified according to following criteria: a chronology; functions (activities); a purpose (goal).

In the aggregate level, according to the chronological character usually there are distinguished these management theories: traditional management; management of human relations; management of organisations (Fig. 2) [3].

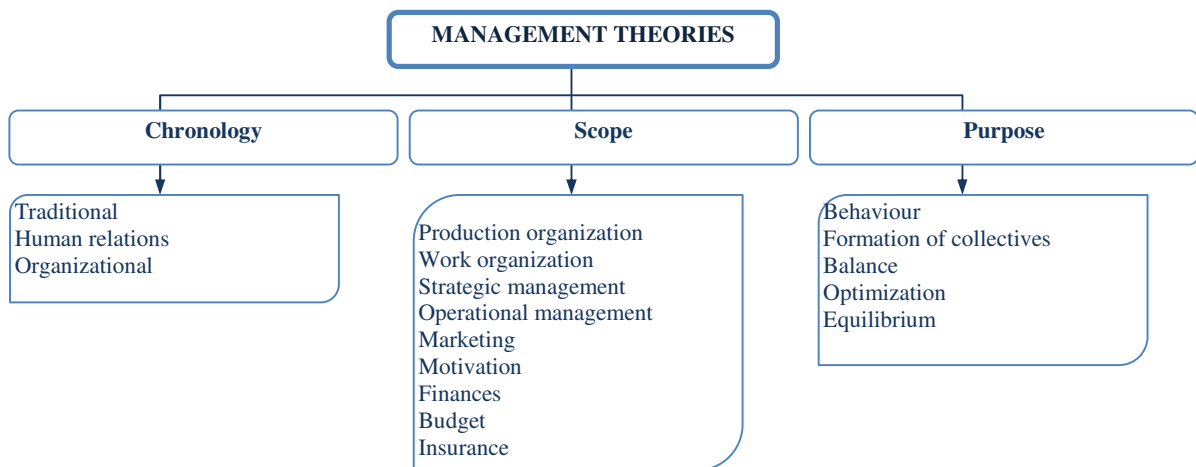


Fig. 2. Classification of management theory according to indications. Source: [3].

In literature sources there are a lot of information about the various management theories. In railway transport, as a specific activity sector, management theories must be applied such that could improve the management of railway transport sector in of procedural point of view, increasing the sector's competitiveness and efficiency, as well as adaptation of management theories must be adapted, evaluating processes and specifics of the development of railway transport to foreign markets. In this context, it is important to consider in detail several management theories and to examine possibilities of some of their applicability in railway transport.

According to Taylor [1], organizing the management on a functional basis, the planning is important.

According to Jucevičius [4], Taylor clearly showed that not only economic categories and factors determine the effectiveness and that practice can be improved by carefully monitoring and analysing.

Classical theory was the basis for the formation of new management theories and for preparation of modern management recommendations [5]. Scientific management concept – the first historically development trend of management theory.

This theory is based on:

- maximum division of the work, assurance of maximum work specialization;
- limitation of the principal's job by as simple as possible operations;
- assurance of maximum wage;
- limitation of worker's sphere of activity for business operations only.

According to Stoner, Freeman, Gilbert [5], Taylor believed that both the administration and the workers' had a common interest – to increase the productivity. Another representative of scientific management theory is Henry Laurence Gantt. He estimated that the differential wage system has a small impact on the motivation and he proposed a new idea. Gilbert claimed that the study of motion will improve the work of employees, their morals, and it will prove them that managers take care of the workers. Major statements of Gilbert [5]:

- leaders must assess each item according to how much it is possible to implement it, to adapt it, as far as it can be useful;
- every innovation is measured according to how much it is useful for improving the current situation;
- leader must always question and seek the best path.

Classical organization theory can be described as an attempt to identify the administrative principles and skills that determine the effectiveness of management. When creating the concept of administrative principles, largely deserved Henri Fayol, Mary Parker Follett, Chester Irving Barnard, Max Weber [6]. Henri Fayol first studied the behaviour of directors, later systematized it, believing that an excellent management practice has certain features that can be identified and examined. In one of his most famous works, "The Industrial and General Administration" (in French "*Administration Industrielle et Générale*") Fayol formulated contours of the ideal management doctrine, even today these contours do not lose their meaning [6]: *Authority and responsibility, Discipline, Unity of commands, Unity of direction, Division of labour, Subordination of individual interests to the common welfare, Wage, Centralization, Hierarchical management circuit, Order, Justice, Stability of personnel responsibilities, Initiative, Collective spirit.*

The railway organizations are expected to reach their profit ethically and by moral means. Traditional management philosophy, based on the principles of the bureaucracy, and the associated team - control mentality must be excluded [7].

Representatives of the human relations theory first began to explore motivation problems of workers behaviour. This area is especially marked by Bernard, who in his work "*The functions of the executive*" validated an importance of motives in achieving operational efficiency and identified the following general motives: Working conditions compliance with employee attitudes and skills; Work attractiveness; Active personal participation in solving organizational problems.

According to McGregor [8], goal achievement is a moral reward (Y theory). This is where self-expression (one of the highest human social needs) is realized. However, too strict control impedes the self-expression. Properly adapted worker knowledge and ingenuity can yield much more than a simple physical effort increasing.

Analysing communication at the organization level, we can say that communication has a significant impact on human labour success. This is confirmed by the American management specialists [9], stating that "any organization consists of: 85% – people, 10% – material wealth, and 5% – money". Employee understanding within the organization is the key to effective organization model [7].

Bernard first framed an outline of a moral organization and principles of moral official behaviour. After analysing the performance of directors, he finds that quite often a failure occurs outside of competence or skills deficits, but on moral qualities – hesitation, reluctance and embarrassment etc. According to McGregor [8], management is a regulatory art of human relations. There are two theories of this art. The first theory is traditional, based on Taylor training. McGregor called it the X, or authoritarian. The second theory, the Y, is theory of democratic approach to the employee. According to the X theory, person is lazy by nature. He tries to simulate and avoids working. To compel a person to work honestly, it is necessary to encourage him, to threaten him by various penalties and punishments. Organizations identities and differences are presented in Table 1 [10]. According to McGregor, various conflicts are caused by improper management. In summary, the human relations school concept can be compared to the classical school (see Table 2).

In summary, there are following four problems, analysed by human relations theory: individual motivation; behaviour of working groups; leadership of head; behaviour between the groups.

The latest trend of management theories, developed in the 9th decade, propagates a complex, integrated approach to the dependence of organization's activity success on a number of management elements. These theories in general are often referred to successful organizations theories.

Table 1. Organizations identities and differences.

Organization of A type	Organization of J type	Organization of Z type
Temporary recruitment	Lifetime recruitment	Permanent recruitment
Individual solutions	Collective solutions	Collective solutions
Individual responsibility	Collective responsibility	Individual responsibility
Fast recognition and career	Slow recognition and career	Slow recognition and career
External control	Internal control	Internal, informal control, using external formal mechanisms
Segmental attention to employee	Respectful attitude to employee	Respectful attitude to employee and his family
Specialized career	Non-specialized career	Not strictly specialized career

Source: [10].

Table 2. Guiding conceptions of classical and human relations schools.

Statements of classical school	Statements of human relations school
Person is lazy, antagonistic to work, so he tries to avoid it.	Work for a person is a natural need, as a rest or a play.
For a person reaches goals of organization, it is necessary to force him, to threaten, to control and to punish.	When a person is interested in the work, then there is no need for abuse and threats.
Person avoids responsibility.	When the organization's objectives coincide with human personal objectives, he does not avoid responsibility.
There is the single best way to perform each work, and only the leader knows it.	The best performance of work depends on the performer, so it is necessary to give him an initiative.
Division of operations increases work productivity.	Division of operations increases work monotony, so impedes work productivity.
Only technical factors cause production results.	Psychological factors are important for the production results.
The main motive of an employee to work is money.	Important motives of work are work content and working conditions.
It is necessary to encourage an individual.	It is necessary to encourage a group.

Source: [9].

One of the most distinct theories of this deviation, also called the theory of 7-S, was laid by Tom Peters [19] and Robert Waterman, after summarizing the vast experience gained in consulting a wide range of organizations.

Based on the newest management theories, a new managerial abilities direction developed – a universal quality management, which should be analyzing and adopting in railway organization.

4. The possibilities using of management theories and models in railway organizations

Designation of organizational theory name includes a number of management theories and schools. In literature sources management theories are presented in a different names, such as: Quantitative management; Situational management; Social systems management; Neoclassical management; Systems management; Active Management [3].

Quantitative management theory is based on quantitative methods of decisions. It is logical that mathematical models play here an important role, the main subjects are operations research, econometrics, applied mathematics, and information technologies are their technical base.

Situational theory. According to this theory, situations are analysed considering the specific situational conditions. Processes-wise, there are classified the following stages:

1. Analysis of the situation, determining its specifics and the specific requirements for management;
2. Finding the management approach (concept), the most satisfying requirements dictated by specifics;
3. Creation of management potential, corresponding to the situation in terms of content, style and flexibility;

Social systems theory. This theory is focused on human relations development with emphasis on the importance of motivation. The theory underlines that the motivation and environmental factors are the main criteria in making

decisions. Environmental factors include the nature of conflicts in organizations, possibilities of their avoidance and resolution.

Neoclassical management theory. Main provisions of this theory of can be: human individuality, staff competition, salary corresponding to the results, rational ratio between control, self-control and initiative.

Systems theory. According to the general theory of systems, the organization is the totality of inter-related elements, organized in some way. Properties of elements, also their impact on the organization depend on two key things – their nature and purpose (place and relation with other elements). Their role correlation depends also on the complexity of organization (system). With more complexity, the role of organization natural qualities is falling and the role of destination properties is increasing.

In this stage of management development, a special attention is given to mathematical modelling.

Modern management theory. This management theory connects the dynamic and the active managements.

Solutions play an important role in the management process. The most common description of management decisions could be following: this is an expression of organization member(s) reaction in response to a particular organization's situation (circumstances). Management solutions content in details can be revealed by elaborating their cycle [3].

Significance, as classification feature of management decisions, is understood in point of view of decisions influence to the management object. According to this approach, there are appointed management solutions of three categories: strategic, tactical and operational [3].

Implementation of decision making. Speaking of provisions of decisions making implementation in terms of development of railway transport, it is appropriate to point out that, during the expansion of railway activity into international markets, solutions must be well thought out, as they are innovative and nonstandard. It should be noted that before the execution of these activities, a well-trained staff and a team formation are required; it is important to provide them with the necessary knowledge that will be required in a foreign culture country. It is important to the formed team to understand the principles of work organization and specific features, as well as to create a favourable working environment. After establishing a company branch in another country, it is necessary to perform a qualitative control. Managing the company it is essential to comply with the objectives and tasks to purposefully develop railway transport activity.

Feature of management function. Management function is perceived as a certain part of management works, distinguished by certain characteristics. Of course, as in any other classification scheme, detailing features by combining between them, there are possible various options of totality parts, in this case management functions [11].

Forecasting methods. Forecasting is associated with the perspective – close, further and very distant. Forecasting demand is mainly determined by the fact that there is insufficient information about what and when will be in the future. This circumstance determines a forecasting demand, the need in some way to get information about expected conditions of phenomena and their changes.

Forecasting tasks is a necessary part of strategic management and marketing works. Division of all set of forecasting methods (and their variants) according to their nature into two groups: *quantitative* and *qualitative* became already usual.

Quantitative forecasting methods. Group of quantitative forecasting methods is divided according to their principle into three subgroups: extrapolated, causal and structural.

Causal forecasting methods are based on regressive analysis. In this case, to describe retrospective characteristic regularities (to identify analytical expressions approximating them) not only the forecasting indicator (y_t), but retrospective data on its determining factors (x_{1t} , x_{2t} , ..., x_{nt}) are also necessary.

Regressive dependency form and quantitative parameters of regression equation are found by the method of least squares. Characteristics of parameters of found equation (analytic expression) and equation's suitability for forecasting calculations are evaluated according to various criteria, such as the correlation coefficient (for linear dependences) the correlation ratio (for nonlinear dependences), the determination coefficient, Student's criteria, Fisher's criteria etc.

Specialized packages of applied programs usually allow performing an assessment for each dependency factor according to quantitative criteria. This not only increases the decisions objectivity, but also helps to avoid non-productive labour costs in determining long-term period values of factors with the insignificant influence.

After application of quantitative forecasting of the railway transport activity in management context of internationalization processes, it is possible to perform a growth of cargo transportation.

Qualitative forecasting methods. The most common feature of qualitative forecasting methods comparing with quantitative methods is major subjectivity, because methods of this category are based on the principle of intuition. In the upper level there are two subgroups of qualitative methods: individual and collective.

Individual expert assessments are one of the simplest forecasting methods. Basically, it is an opinion of one certain field's specialist concerning the forecasting object. According to the relationship with the expert, there are two individual expert assessments methods: interview and analytical evaluations.

Other qualitative forecasting method – a survey is based on principles of *collective expert assessment* method. Basically, it is a collective assessment, the only difference is that the people are evaluating – the participants of forecasted phenomena, for their role they are called consumers, traders, brokers, agents and otherwise, but not experts. They usually are numerous, so it is not possible to interview them all or at least it is not profitable. Not always all such persons are known. According to such circumstances, usually their typical representatives are selected for questioning, where representatives are selected reasonably, and the survey results can be treated as reflecting a general opinion of the relevant survey segment.

In order to check the relevance of internationalization process management model of Lithuanian railway transport development, it was carried out an expert assessment on the expert assessment method. This method includes the expert survey questionnaires and evaluation of expert opinions compatibility and their results. The survey involved eight Lithuanian experts.

After examining the experts, most reflecting the process of Lithuanian railway strategic planning, 88% of respondents completely agree that the quality of strategic planning is the most important to the Lithuanian railway transport operational efficiency. According to them, no less important is the strategic planning issues in the Lithuanian railway transport internationalization process. Most of the questioned experts only partially agree that the Lithuanian railway transport sector is able to improve the strategic planning using internationalization instruments.

Lithuanian experts were asked what the external environmental factors, in their opinion, affect the Lithuanian railway operational planning; all respondents unanimously agreed that political and economic factors have the greatest impact on the Lithuanian railway sector strategic planning. 63% of respondents believe that equally important are technological factors, and only 37% of respondents say that Lithuanian railway transport sector activity plan strategy is influenced by social factors.

On the other hand, in the internationalization process Lithuanian railway transport, penetrating into foreign markets, is affected by both internal and external factors. The interviewed experts emphasized that the size of the demand for railway transport market, company's maturity to develop activity and the competitive environment have the greatest impact on the penetration into foreign markets. According to experts, less impact is made by internal factors: favourable conditions in business environment and the company's working experience in foreign markets. All this leads to a complex internationalization experience, which is developed by the railway transport company working on the international market.

The experts were asked to assess the Lithuanian railway strategic development directions in the internationalization process. Eight experts' questionnaire data were randomly entered in the Table 3.

Using the formula, the average of grades was calculated.

A factor – the average of grades is equal to:

$$\bar{R}_1 = \frac{\sum_{j=1}^9 R_{1j}}{9} = \frac{13}{9} = 1.625.$$

Forecasting showed that Lithuania needs instruments for integration into the global trade and transport networks, enabling to help Lithuania to discover the beneficial channels of international trade development, while developing the railway network and promoting railway transportation. Based on the studies and analysis of railway transport development opportunities using the contemporary management theory, based on the principle of systems activity

organization, the development of railway enterprises in today's business environment needs to be associated with: partnership and identification of common goals; unified planning, creation of unified database on cargo flows and their management through a common IT system, common monitoring, improvement of service quality and attractiveness, and reliability.

Table 3. Ranking table of received evaluations.

No of respondent	Symbol of factor encryption ($m = 9$)								
	a	b	c	d	e	f	g	h	i
E_1	1	3	8	2	9	7	4	5	6
E_2	2	1	3	4	6	7	8	9	5
E_3	1	3	5	7	6	9	8	4	2
E_4	1	4	6	8	7	5	9	2	3
E_5	3	7	4	9	6	5	8	1	2
E_6	1	4	5	7	6	8	9	3	2
E_7	1	5	6	2	7	9	8	4	3
E_8	3	4	5	7	6	8	9	1	2
$\sum_{i=1}^n R_{ij}$	13	31	42	46	53	58	63	29	25
$\bar{R}_j = \frac{\sum_{i=1}^n R_{ij}}{n}$	1.625	3.875	5.250	5.750	6.625	7.250	7.875	3.625	3.125
$\sum_{i=1}^n R_{ij} - \frac{1}{2}n(m+1)$	-27	-9	2	6	13	18	23	-11	-15
$\left[\sum_{i=1}^n R_{ij} - \frac{1}{2}n(m+1) \right]^2$	729	81	4	36	169	324	529	121	225

Given descriptions completely correspond with the theory of systems principal attitudes, based on the interoperability and synergy of elements of the system, which affects the pursuit of unanimous aim. Choosing systems theory adaptation for railway transport development is based on results of freight transportation forecasts.

5. Styles of leadership

Leadership in railway organization should be one of the most important functions of manager, associated with interpersonal aspects of management, helping subordinates to understand the company's goals and promoting effectively to achieve them. Manager turns a totality of individuals into a targeted and efficient group of people (see Table 4) [12].

Governance (leadership) is an individual's ability to affect or to influence other people for goal achievement. According to Drucker [12], it is not necessary to "manage" people. The task is to govern the people, to lead them, and the aim is to use each individual's specific strengths and knowledge.

In summary, it can be said that over time the work of manager is getting more complicated and more responsible. Environmental changes are increasing requirements for the manager, also increasing the responsibility for the activity results, the subordinates are willing to become the partners in solving production or management problems [12–14].

Table 4. Dividing of manager's roles according to Mintzberg [15].

Role	Content	Nature of activity
Interpersonal roles		
Representative	Leader is a symbol of the organization, whose competence is to perform traditional, legal or social duties	He represents the firm in international and state organizations. He participates in official meetings and conferences. He is a member of various committees
Leader	He inspires the company's goals for its employees	He heads a group, company staff, motivates and evaluates the employees
Intermediary	He supports the relations between the company and the environment (contracts, orders)	He recommends and promotes his company, hoping the new customers, contracts and orders. His activity is related to external organizations and individuals.
Informational roles		
Representative of company	Discusses certain problems with representatives of other organizations	He consults with professionals and representatives of union, provides certain knowledge about the product, department or company.
Expeditor	He provides information to other members of the organization.	He prepares and sends reports, letters.
Expert – specialist	He collects information concerning company's activity (sales, taxes)	He is analysing publications related to the company specifics, is traveling for business purposes, is receiving guests.
Decisive roles		
Stimulator of development	He is looking for new opportunities and systematically improves organization	He encourages employees to express their opinions, ideas related to the manufactured product, to the organization's development. He promotes scientific research. He calls not to reject the risk.
Arbiter	Removes negative effects from the enterprises work	Analysis of organisational structures. Analysis of causes and solutions of the negative effects.
Distributor of resources	Distributes deficit resources and identifies priorities	He helps to create the company's budget. He decides on the renewal of machinery and tools, hiring and dismissal of employees.
Negotiator	Represents the company	He predicts conditions to the problem solution.

Source: [12].

According to Damašienė [17], democratic manager style mainly depends on manager's personal qualities and character traits. Democrats usually are people maintaining a balance, optimists. Democratic or liberal style of management allows employees to feel important, encourages initiative, but such a leadership has also negative traits.

6. Management theories application possibilities to the railway transport development

In railway company management process it is possible to apply classical management theories, which basic principles are based on the basic functions, i.e. planning, organization, management and control. Thus, management is based on the classical scientific and administrative management theories. Strategic goals and priorities are formulated in the company's approved strategy. Within railway the company, objectives and solutions must be implemented by major functional services, delegated persons or their formed committee.

During the implementation of the railway transport's activity development it is important to choose and ensure appropriate management method after evaluating internal and external environment of railway company activity. Expanding the company's activities and seeking to manage it effectively, it is important to define and to coordinate clear guidelines of development for all railway transport company staff, involved in the development process, as well as managing and subordinate company sectors in presenting company's plans and objectives, implementation strategy. To ensure railway transport development, "Alliance + cluster" system is proposed. Mission of "Alliance + cluster" system is the main objective of the railway transport sector, based on the planning assumptions. Mission has a major importance for creation of the railway transport sector, and thus the "Alliance + cluster" system, because on its basis is forming both railway transport, as well as the objectives of the system itself, which become other management decision-making criteria, associated with system activity. In case of implementation of this system,

strategy and management concept must be developed by the railway company executives, responsible for the management of the company both internally as well as externally. Railway development of the company in foreign markets requires appropriate preparation by properly educating staff competencies and developing its knowledge. Guidelines for the development of railway transport must be shaped for those units within the railway company. It is appropriate to mention that during implementation of strategy it is important to carry out a focused decision-making process.

It is important to note that the successful system management is caused by developed relationships between managers of affiliates. This gives a high operational efficiency, since the structures should be carried out and learning between business partners, i.e. how to manage the organization of transportation and logistics services business, to get acquainted with the existing weaknesses and strengths and to pursue new skill assimilation, which could improve the companies' competitive position. It must also be coordinated a joint decision-making strategy, regular exchanging the information on business partners and on the results achieved in joint meetings. Each of system members must seek the best result both in the own field as well as the common good. Activity control system is necessary for efficient operation of the system. During the implementation of the system activity strategy, the management and control of its implementation are necessary.

The following guidelines of strategic control implementation are presented to ensure system successful activity: orientation towards organization key performance indicators and success factors; separation of information for various structural hierarchy levels; moving beyond the mere quantitative information and non-overestimation of its opportunities; searching of simplification alternatives to the created strategic control system; real assessment of developed strategic control opportunities; application of information technologies and experimentation.

Planning process is particularly important, it allows choosing the appropriate activity mode, putting the proper staff, resources, costs, and creating the appropriate implementation plan of seeking objectives.

During the development of railway transport into the foreign market, it is necessary to pay attention to the conditions of penetration into foreign markets, and to their determinants [16]. The chain of value creation is much more influenced by the strategic process, marketing, knowledge accumulation, image formation, employees' qualification and capacity-building activity, strategy implementation processes and resource development management, organizational and lobbying activities and logistics operations in the global market [17].

Among the analysed methods, for the efficiency of the railway company's activity most appropriate are psychological and economic methods conforming to specifics of the railway company's activity during the development activities into foreign markets and creating of an efficient and qualified team.

7. Conclusions

1. It is clarified that in the railway transport company, which runs in an ever-changing environment and business conditions, it happens to apply and to coordinate various theoretical approaches to management. A variety of different approaches helps the company adapt to the activity environment and to flexibly organize it and to expand;
2. After analyzing the various management theories and models it can be stated that they can be adapted to the railway transport management and to the activity development. Various management theories can be applied to diverse railway transport activity by increasing quality of railway services after application of effective management theories provisions based on the formulated statements of various management schools. For the management improvement of railway transport development, systems theory can be chosen;
3. During application of effective management theories, it is possible to significantly increase employees productivity, reflecting the creation of the physical, psychological and social factors compatibility of railway companies and of the positive working environment;
4. Choosing methods of leadership, it is necessary to take into account the nature of the company's activity, the environment, which affects employees' performance, can increase the motivation, forms loyalty to the company and thus increases activity efficiency;
5. Culture of railway company management is especially important when representing the company in the national and foreign markets. Company management culture provides more benefits when its employees are representing its interests with great confidence and motivation.

6. After application of appropriate management methods, it is possible to create a balanced system of indicators activity evaluation that encourages employees to achieve corporate strategic objectives implementation, and to make decisions efficiently and quickly.

References

- [1] F. W. Taylor, Principles of scientific Management. New York. Harper and Row. 1911.
- [2] P. Zakarevičius, Vadyba: genezė, dabartis, tendencijos. Monografija. Kaunas: Technologija. 2002.
- [3] J. Bivainis, Vadyba studentams: mokomoji knyga. Vilnius: Technika. 2011.
- [4] R. Jucevičius, Strateginis organizacijų valdymas. Kaunas: Pasaulio lietuvių kultūros, mokslo ir švietimo centras. 1998.
- [5] J. Stoner, R. Freeman, Jr. Gilbert, Vadyba. Kaunas: Poligrafija ir informatika. 2001.
- [6] H. Fayol, Administravimas: teorija ir praktika. Vilnius. 2005.
- [7] E. Weymes, A challenge to traditional management theory, Foresight 6(6) (2004) 338–348.
- [8] D. McGregor, The human side of enterprise. New York. 1960.
- [9] B. Neverauskas, J. Rastenis, Vadybos pagrindai. Kaunas: Technologija. 2000.
- [10] A. Sakalas, V. Šilingienė, Personalo valdymas. Kaunas: Technologija. 2000.
- [11] T. Whisler, Information Technology and Organizational Change. Belmont. 1970.
- [12] F. D. Drucker, Valdymo iššūkiai XXI amžiuje. Vilnius: D. Radkevičiaus Pl. „Rgrupė“. 2004.
- [13] A. Sakalas, P. Vanagas, B. Martinkus, et al. Pramonės įmonių vadyba. Kaunas: Technologija. 2000.
- [14] V. Misevičius, Verslo etikos ir bendravimo organizavimo pagrindai. Kaunas: Technologija. 2003.
- [15] H. Mintzberg, The structuring of organizations. N. J. 1979.
- [16] P. Žukauskas, Kompanijų veiklos internacionalizavimas ir tarptautinių rinkų įsisavinimo strategijų formavimas. Kaunas. 2000.
- [17] A. Makštutis, Veiklos vadyba. Teorija ir praktika. Vilnius: Leidybos centras. 1999.
- [18] B. Martinkus, S. Stoškus, D. Beržinskienė, Vadybos pagrindai. Šiauliai: VŠĮ Šiaulių universiteto leidykla. 2010.
- [19] T. J. Peters, Liberation Management. New York. 1992.
- [20] V. Damašienė, Valdymo pagrindai. Šiauliai. 2002.
- [21] R. Adamonienė, A. Sakalas, V. Šilingienė, Personalo valdymas. Kaunas: Technologija. 2002.
- [22] R. C. Appleby, Šiuolaikinio verslo administravimas. Kaunas: Technologija. 2003.
- [23] L. Bakanauskienė, N. Petkevičiūtė, Vadovo darbas. Metodinė priemonė. Kaunas: VDU leidykla. 2003.
- [24] C. Gray, Ch. Mabey, Management Development: Key Differences between small and large Businesses in Europe, International Small Business Journal 23 (2005) 467–485.
- [25] I. A. Jackson, Effectivemanagement, ethical leadership needed. 2008. Available from internet: <http://www.Druckerinstitute.com/ShowPage.asp?Section=RP&pageID=84>
- [26] K. Kardelis, Mokslinių tyrimų metodologija ir metodika. Kaunas: Technologija. 2002.
- [27] E. Labutienė, R. Autukienė, Mažų ir vidutinių įmonių kūrimas ir valdymas. Vilnius: Lietuvos informacijos institutas. 1994.
- [28] H. Larsen, Karjeros ir karjeros sampratos raida. Personalo vertė ir vadyba. Verslo žinios, pp. 1–10. 2002.
- [29] E. Laumenskaitė, Self – management in Times of change, Organizacijų vadyba: sisteminiai tyrimai 27. 2003.
- [30] K. Lukaševičius, Mažųjų ir vidutinių įmonių vadyba: mokomoji knyga. Kaunas: Technologija. 2000.
- [31] K. Lukoševičius, B. Martinkus, Verslo vadyba. Kaunas: Technologija. 2001.
- [32] F. Malik, Vadovauti veikti gyventi. Veiksmingas valdymas naujaisiais laikais. Vilnius: Mūsų knyga. 2005.
- [33] A. Marčinskas, A. Šikšnelytė, Darbuotojų pasitenkinimo darbu didinimo strategijos, Organizacijų vadyba: sisteminiai tyrimai 12 (2002) 137–145.
- [34] E. Markevičienė, Kaip rasti sprendimą, kuriuo džiaugtųsi visi? Vadovo pasaulis, 2. 1998.
- [35] B. Martinkus, Darbo procesų valdymas. Šiauliai: Šiaulių universiteto leidykla. 2003.
- [36] A. Mikalauskaitė, G. Sinkevičius, A. Jarašūnienė, Development of Railway Transport Services in the Context of Marketing Solutions. Transport Means, Part III (2016) 1135–1143. ISSN 1822-296X.
- [37] G. Myers Deivid, Socialinė psichologija. Kaunas: Poligrafija ir informatika. 2008.
- [38] V. Obrazcovas, Valdymo išmintis. Vilnius: LTU. 2002.
- [39] V. Obrazcovas, Valdymo ir administravimo pagrindai. Vilnius: Baltos lankos. 2006.
- [40] Organizational Struktire and Design. Ed. by G. W. Dalton. N. Y. 1970.
- [41] L. Pakalkaitė, Vadovavimas besikeičiančiame pasaulyje, Vadovo pasaulis 2 (2006) 37.
- [42] N. Paliulis, E. Chlivickas, Vadybos pagrindai. Vilnius. 1998.
- [43] L. Paperno, Mechanizmas ar organizmas, Vadovo pasaulis 2 (1999) 46–48.
- [44] N. Petkevičiūtė, Profesinė karjera asmenybės raidos kontekste, Ekonomika ir vadyba 32 (1998) 275–276.
- [45] V. A. Profilidis, Railway transport management and engineering. Fourth edition. England. 2014.
- [46] V. Ratkevičienė, Sprendimų priėmimo psichologiniai aspektai valdymo procese, Ekonomika ir vadyba 49 (1998) 311–312.
- [47] V. Ratkevičienė, Motyvacija – kelias į rezultatų valdymą, Organizacijų vadyba: sisteminiai tyrimai 12 (1999) 145–151.
- [48] R. Razauskas, Vadybos mokslo pradininkai ir jų palikimas. Vilnius: Technika.

- [49] S. Robbins, Organizacinės elgsenos pagrindai. Vilnius: Poligrafija ir informatika. 2003.
- [50] A. Šalčius, Organizacijos valdymo pagrindai. Kaunas: Naujasis lankas. 1998.
- [51] A. Seilius, Firmos kūrimas ir valdymas. Klaipėda: Klaipėdos universiteto leidykla. 1994.
- [52] A. Seilius, Organizacijų tobulinimo vadyba. Klaipėda: Klaipėdos universiteto leidykla. 1998.
- [53] Ph. Selznik, Leadership and Administration. N.Y. 1957.
- [54] D. Silverman, The theory of organizations: A sociological framework. London. 1974.
- [55] S. Stoškus, Bendrieji vadybos aspektai. Šiauliai. 2002.
- [56] S. Stoškus, D. Beržinskienė, Vadyba. Kaunas: Technologija. 2005.
- [57] A. Vasiliauskas, Strateginis valdymas. Kaunas: Technologija. 2007.
- [58] S. P. Waring, Taylorism Transformed: Scientific Management Theory since. 1991.
- [59] T. Weiss, S. Kolberg, Coaching Competencies and Corporate Leadership. Contributors. St. Lucie Press. Place of Publication: Boca Raton, FL. 2003.
- [60] J. Wieland, Standards and Audits for Ethics Management Systems – The European Perspective. Springer. 2003.