

Models of Management of Railway Infrastructure of Montenegro

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Abstract: In time of rapid economic and technological change and turmoil, no one can manage business successfully, just because they think they are 'smart'. In order to successfully manage organizations in the era of dramatic change, in this case ŽICG (Railway infrastructure of Montenegro), it is no longer sufficient to master the classical management process, but also to master the overall quality of management process.

In order to achieve the best possible business results in the Railway Infrastructure of Montenegro, the theoretical and practical knowledge on which the management process is based, starting from planning (goal setting, determining ways to achieve goals, allocating required resources), organizing (a division of labor, delegation of authority, coordination), leadership (supervision, motivation, remuneration and punishment, training), conflict resolution) and lastly control (choice of control parameters, monitoring of results, comparison of planned and realized, taking corrective actions).

In order to improve the current situation, the models of management of railway infrastructure are considered, for which as a manager builds and invests in railway infrastructure, takes care of its modernization, current maintenance, provides access and allocates infrastructure capacities and organizes and regulates railway traffic. In the processing of the management model, the work relies on the Strategy for the Development of Transport of Montenegro in the period 2019-2035, which establishes the situation in the areas of transport, defines the infrastructure, organizational and operational goals of the development of the transport system, which are realized through time and long-term implementation plans.

Key words: organisation, management, models, railway, infrastructure, control, effects, results.

INTRODUCTION

*“Work hard,
because who does not progress every day,
it goes back every day”.*
Konfucius

As a system, the railway has its own entrance, internal traffic-transport process, traffic-transport activities, exit, external influences, and return, or regulatory links. The central input component to the rail system is, among other things, diverse resources.

Resources, as input components, are transformed into output elements of the rail system, that is, to the transport service, which is essentially a product of the rail process. In order to use rail resources efficiently and effectively, it is necessary to manage them, that is, to establish processes by which resources are provided, used, monitored, evaluated, maintained and protected.

Railway infrastructure is one of the key material resources of the railway. In order to use material resources

in a way that achieves the efficient and effective realization of the transport service, it is necessary to establish appropriate procedures, rules, instructions, etc. for this purpose.

In order to improve the railway business, it is necessary to work on the development of such models of railway infrastructure management that will best ensure that the railway successfully builds and invests in the railway infrastructure, thus contributing to its modernization, reliable current maintenance. In addition, the railways must effectively ensure access to and allocate infrastructure capacity, organize and regulate rail traffic.

CHARACTERISTICS AND CONDITIONS OF RAILWAY INFRASTRUCTURE OF MONTENEGRO

There are different conceptions of resources that adapt to specific situations. In the most general sense, a resource

is defined as an aid, a source of help; the source (economy) from which the raw materials are supplied; a place for leisure; narrower society.

Railway infrastructure as material resource includes: railways and railroad facilities; electricity and stable electric traction plants with associated facilities; signalling/interlocking installations with associated facilities; telecommunications and IT facilities with associated facilities; land in the railroad and protective zone, buildings, depots and other objects that are in the function of traffic.

The overriding task of railway infrastructure is its use to achieve the objective of the railway system, which can be defined as the achievement of an efficient and effective realization of the transport service.

Railway Infrastructure of Montenegro JSC.-Podgorica (RIoM)/ Željeznička infrastruktura Crne Gore AD-Podgorica (ŽICG)/ is a joint stock company founded on July 7th, 2008 in accordance with the strategy of restructuring of the Montenegrin Railways.

As infrastructure managers, as well as public goods in the general use and ownership of the state of Montenegro, the Railway Infrastructure of Montenegro has built and researched the railway infrastructure, saline solution for its modernization as well as for the current maintenance. Also, secured access and additional infrastructure capacity of all interested railway undertakings that meet the legal requirements, determine the quantities for the use of infrastructure capacity, create and publish red traffic, organize and regulate railway traffic.

The total length of the railway lines (Figure 1) in Montenegro under the jurisdiction of RIoM is 250 kilometers, that is, 327.6 km with station tracks, 224 km of which are electrified, 168 km of the open line Vrbnica - Bar, Podgorica - Bajze, border with Albania 26 km and Podgorica - Nikšić 56 km. There are 106 tunnels, 107 bridges, 13 galleries and 371 culverts, or 37% of the railway, which are complicated infrastructure projects. It comprises the highest railway viaduct in Europe (the bridge over Mala Rijeka) and the Sozina Tunnel, 6.2 km long. The permitted axle load is 22.5 tonnes. The rail network density in Montenegro is 18.4 m of rail / km², or 0.40 / 1000 inhabitants. This railway line, previously referred to as maintenance, makes it the most complicated and expensive railway in Europe. [10]

The total reconstruction of the Vrbnica - Bar railway line is 50% of the total length. Of the total of 16 sections, to date (March 10, 2020), eight have been reconstructed, that is, the repair of the railway has been completed. These are seven sections, from the border with the Republic of Serbia to Trebjesica - Kolasin municipality and one section to the south, Sutomore - Virpazar. The map shown in green shows the overhauled sections.

Montenegrin railway stations do not have an adequate length of bypasses to provide conditions for freight trains of 740 m length (as required by Regula-

tion 1315/2013 for valid ERTMS operations). Compatibility of standards for the fulfillment of obligations on the network of lines on the TEN-T network has been implemented continuously since 2018, as started with the publication of the TSIs, which are determined by the Law on the safety, organization and efficiency of railway transport ("Official Gazette" MNE, No.01 / 14). TSIs for Infrastructure and CCS for Control Command Systems in 2019 have been published. In the meantime, TSIs related to energy and tunnels will be published, and in the next 5-7 years all other TSIs, which implementation will be feasible on the railway lines of Montenegro, will be published.

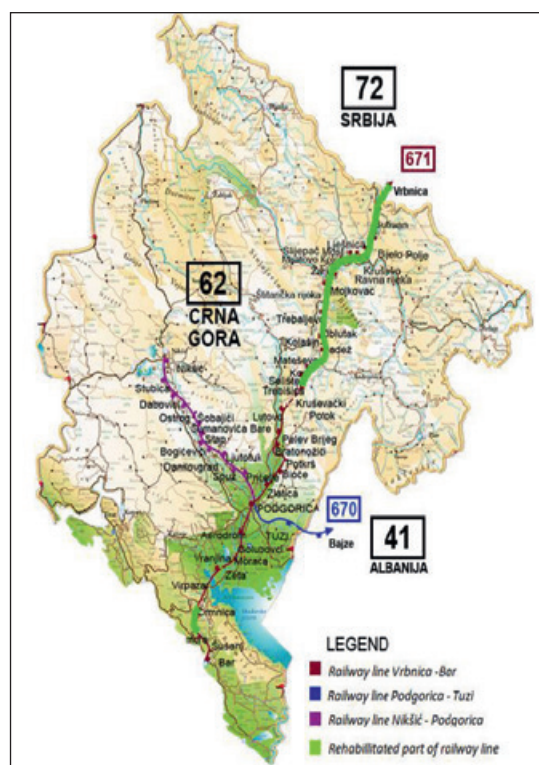


Figure 1. MNE Railway network [10]

Railway infrastructure of Montenegro is one of the first companies in Montenegro that adopted Corporate Governance Code of Montenegro Stock Exchange and its implementation. RIoM is a member of CER (Union of European Railway Companies and Infrastructure Managers) and a member of UIC (Union of Railway Companies). [9]

Given that the railway is a rigid system, which is slowly adapting and certainly does not suffer sudden changes, it was to be expected that the restructuring process under the Companies Act would not take place easily or quickly. This is confirmed by the fact that the process has been going on for 15 years, with the end still not clear. In addition, very often the deadlines set for the achievement of particular goals are shifted because soon in practice they are shown to be unrealistic due to the in-

fluence of many factors that were not taken into account when planning.

This undoubtedly indicates that the one setting the objectives (European Commission) does not have a clear idea of how the restructuring process should take place, especially when it comes to its time dimension. Despite the many lessons learned, it is evident that they are not sufficient to answer the question of when the expected goals should be reached, i.e. the completion of the restructuring process.[8]

The speed of movement, the gross weight of the train and the length of the space sections also determine the capacity of the infrastructure. This way of organizing transport ensures that by increasing the speed and weight of the train, the capacity of the infrastructure increases. The traffic of all trains is regulated according to the prescribed maximum speeds and weights of the trains, which enables optimal use of both infrastructure and other capacities.

The transition period of the company from 1990 to 2003 had a negative impact on the overall economy of Montenegro and countries in the environment whose recovery is slow and inflexible in the measure of adaptation to the latest technical and technological developments that accelerates the production process, shortens the time of cargo / goods transfer, and providing passenger transport services, increasing speed, reducing operating costs, improving the position of railways in the market relative to competitors (road, air, sea and river transport), in the domestic and international markets.

In addition, we should not neglect the fact that due to the poor financial condition and maintenance of the infrastructure of Montenegro, it was increasingly neglected, which had a negative impact on competitiveness, and the railway became increasingly unreliable carrier and over time lost traditional users of transport, such as is the energy sector, construction sector, timber industry, agriculture, etc. In the broader context, RIoM should be seen as part of a large system of interconnected actors, whose external environment is characterized by risk and uncertainty, and internally high investments in reconstruction, rehabilitation, repair, rehabilitation, ongoing maintenance of the railway line, which burden current operations. Especially since we often cannot improve the overall condition (we keep the existing track 2 to last until the main overhaul, because only individual parts are replaced (for example: sleepers) and when they are completely worn out and as such they cannot be in the track or they can be in a small percentage (that's why we introduce light rides and abolish after replacement).

Internal high investment in RIoM, the results of which depend on several factors and whose results are visible in relation to the percentage of utilization of the routes in relation to the projected and planned, as can be seen from the graphical representations given in Figures 2 and 3 in a certain time period. Strategic approach to

the management of the WGI is a comprehensive, multi-dimensional and balanced construction in combination of the various elements that make up the management system in this type (type) of traffic. Bearing in mind the importance of the RIoM for the overall economic development of Montenegro, and beyond, efforts are being made to improve a new way of organizing, managing and improving the functioning of the RIoM.

The RIoM Maintenance Studies have projected a trend in maintenance costs flow by the following dynamics: from 1-5 years growth of 2%, from 6-10 years growth of 4%, from 11-15 years growth of 8% from 16-20 years growth at a rate of 6%. From the available documentation and expert reports, funds allocated for ongoing maintenance are not adequate to adequate i.e. qualitative track maintenance. Table 1 provides an overview of the funds allocated from the state budget for the period 2008 to 2018.[10]

Table 1. Funds allocated from the state budget of Montenegro for the maintenance of railway infrastructure [10]

ALLOCATION OF FUNDS FOR MAINTENANCE OF RAILWAY INFRASTRUCTURE			
Year	BUDGET		Total (mil E)
	Ongoing maintenance RIoM	Investment maintenance (Railway Administration)	
2008	7,2	1,7	8,9
2009	9,7	/	9,7
2010	9,6	/	9,6
2011	8,3	/	8,3
2012	7,2	/	7,25
2013	6,8	/	6,8
2014	6,7	/	6,7
2015	6,7	/	6,7
2016	6,8	/	6,8
2017	6,8	0,05	6,85
2018	6,8	0,12	6,92

The projections for the development of RIoM require significantly greater appropriations for the maintenance of the overhauled part of the railway line of 50% and the second part of the railway line from Kolašin to Bar, the part of the railway which is planned for reconstruction / overhaul in the coming period, since it would by no means be rational from the economic point of view that the time of reconstruction of the part of the railway line completed at the end of 2019 and the time of the beginning of reconstruction of the remaining part of the railway line coincide, since the reconstruction time should be done every 20 up to 25 years. Part of the funds in the table are not maintenance investments but to finance part of the current liquidity of the RIoM. [10]

There is a significant difference between the design and actual-instantaneous train speeds, and this condition is mainly conditioned by the existing infrastructure.

Tables 2 and 3 provide basic information on railways and networks of railway infrastructure of Montenegro.

Table 2. Main data about railroad of RioM [10]

RAILROAD	VRBNICA - BAR	NIKŠIĆ-PODGORICA	PODGORICA-BAJZE	TOTAL
PUTTING INTO OPERATION YEAR	1976	1948/1965/2012	1984	
Length of open track with station passing tracks (km)	169.21	56.60	24.70	250.51
	electrified	electrified	not electrified	
Length of station tracks (km)	65.71	8.73	2.77	77.21
Category of railroad (valid)	D4 (22,5 t per axle; 8 t/m)	D4 (22,5 t per axle; 8 t/m)	D4 (22,5 t per axle; 8 t/m)	
Official points (number)	9 stations, 8 passing points, 19 stops	2 stations, 2 passing points, 7 stops	1 stations	12 stations, 10 passing points, 26 stops
Area of station and business buildings	35.138,00 m ²	5.688,00 m ²	1.499,00 m ²	42.325,00 m ²
OBJECTS AND ROAD BED				
Bridges (number, type)	108 bridges (92 concrete, 16 steel)	9 bridges (8 concrete, 1 steel)	5 concrete bridges	122 bridges
Total length of bridges in m':	8,404.49	374.75	190.00	8,969.24
Tunnels (number)	106 tunnels	12 tunnels	3 tunnels	121 tunnels
Total length of tunnels in m':	51,597.00	3,439.00	2,676.00	57,712.00
Galleries (number)	14 galleries			14 galleries
Total length of galleries in m':	391.57			391.57
Number of culverts under railroad (pcs.)	372 culverts	45 culverts	24 culverts	441 culverts
Road bed (embankment, cutting and insection) in km	107 km	52 km	22 km	181 km
Length of retaining walls in km	45,30 km	2,70 km	2,30 km	50,30 km
Registered landslides (total length in m')	2.890,00 m			2.890,00 m
Level crossings	10	22		32 Level crossings
Underpasses	10	6		16 Underpasses

Table 3. Main data about RioM network (length of the network, ancillary tracks, number of objects on the railway line) [10]

RAILROAD	VRBNICA - BAR	NIKŠIĆ-PODGORICA	PODGORICA-BAJZE
Length of contact network in km	223,80 km		223,80 km
EVP (electric traction substation)	Mojkovac, Trebešica, Podgorica and Bar		4 substation
PSN (substation for sectioning from neutral line)	Bijelo Polje, Kolašin, Bratonožiće and Virpazar	Danilovgrad	5 substation
PS (sectioning substation)	Mijatovo Kolo, Trebaljevo, Lutovo, Kos, Bioče, Golubovci and Sutomore		7 substation
Contact network building – OCL	Mojkovac i Podgorica		2

The following figure shows data on the utilization of the ŽICG routes for the period 2017-2019, which shows that the utilization percentage is below the planned which indicates that the revenue generated is below the planned, which impedes the business of the Company "Montecargo", i.e. that the utilization percentage route in 2018 lower by 25.80% compared to 2017 or higher in 2019 compared to 2018 by 8.69%. [10]



Figure 2. Usage of the path – Montecargo (%) [10]

In order to contribute to achieving balance of financial strength, the fixed assets - routes of the RIoM, it is needed:

- that capacity is used in a direction that leads to a distance beyond the point of cost-effectiveness;
- to mobilize invested funds more quickly
- to preserve the substance of the funds invested.

The lower margin of profitability is defined as the ratio of costs (fixed and variable) and revenue from transportation. The volume of production of services and the point (limit) of profitability are mutually conditioned.

The higher the fixed costs, the greater the volume of transportation required to achieve a lower cost-effectiveness point. Fixed costs are the product of engaging a factor in the production of services. Hence, investments must be 'covered' by an increase in the volume of transport at least in the amount of additional fixed costs.

Removing capacity utilization from the lower point (margin) of profitability is also achieved by reducing the time (cycle) of investment, that is by the favor of investing in fixed assets with lower fixed costs - this is equipment.

From the information available to the RIoM (Balance Sheet, Income Statement and Financial Statements as well as Operators, and the Bureau of Statistics –Monstat these three Companies should plan to reorganize /

restructure as soon as possible in order to create conditions for business on the principles of market economy and their sustainability.

The other operator also noted that the routes are used in high percentage and that the usage in 2018 is higher by 0.33% compared to 2017, that is, the utilization rate in 2019 is decreased by 4.72% compared to 2018. What is burdensome to the RIoM is that in this case the methodology for determining the cost of using RIoM tracks is lower than the price to cover variable operating costs and, from an economic point of view, the redistribution of costs within the GISG and the operators as users of the tracks is not well done.

RAILWAY INFRASTRUCTURE MANAGEMENT

One of the key issues in the economy of the transport business, and of transport policy in general, is the issue of infrastructure. Content, method and method of reproduction, as well as infrastructure management, are key issues for the conditions of economy and harmonization of competitive conditions of carriers in the transport services market. Various local and foreign authors have taken up the definition of infrastructure issues and have taken various positions. This problem has been addressed by the International Railway Union. It is generally agreed that the infrastructure of the transport sys-

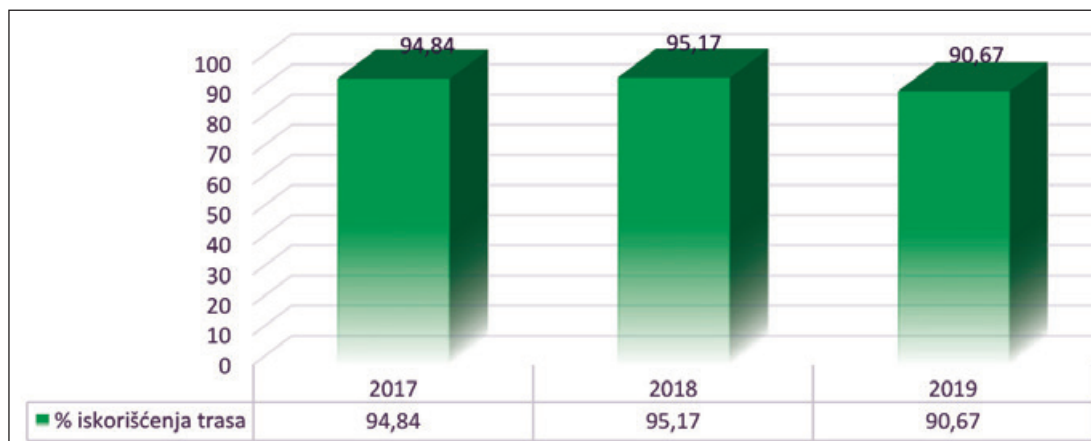


Figure 3. Usage of the path – Railway transportation of Montenegro (%) [10]

tem, the harmonization of economic conditions and the competition of transport carriers in the market of transport services. The general importance of infrastructure for the functioning of the country’s economic and social life is at the same time a framework for international economic integration, such as the European Union. On this basis, major projects are being formed, such as the European High Speed Lines Project as well as the Pan-European Corridors, which also includes the transport infrastructure of the Balkan countries.

Because of the above, from time to time, doubts are raised about the whole process, which again has a retroactive effect. At the beginning of the establishment of the Railway Infrastructure of Montenegro, as a separate company, there was no clear timetable and expectations in this regard by the EC and the EU as a whole. Here, the authors ask justifiable two questions, themselves and others, which are the experiences of others in conducting such or similar processes. [8]

1. How long did the restructuring process take place in other railway companies in Europe and
2. How long did this process take place in other non-European rail systems?

Economic principles in a liberal and open market economy are unaware of the so-called “agreed economy”, therefore, the process of reorganization of the

Montenegrin Railway and all economic entities where the state is the majority owner of the capital, needs to be reorganized in depth and breadth as soon as possible, in order to increase the efficiency and effectiveness of business operations and to include Montenegro and the countries of Southeast Europe or the Western Balkans and EU accession. This is necessary for the integration of WGI in international economic flows, which includes: market expansion, better use of installed production / service capacities, job creation, reduction of unemployment rate, reduction of migration movements, increase of land use rate, increase of production volume, achievement of greater business results, reducing business costs, increasing productivity, rapid and efficient reconstruction, all with the aim of improving the living standards of citizens, improving transport infrastructure, increasing the mobility of all segments for accelerated economic development of Montenegro. [6]

Railway infrastructure resource management means a set of processes that includes resource planning, provisioning, maintenance and use of resources, with constant review.

Resource planning for railway infrastructure means identifying resource requirements and planning for their provision. The provision of resources is the process of timely obtaining the required quantities of resources of a

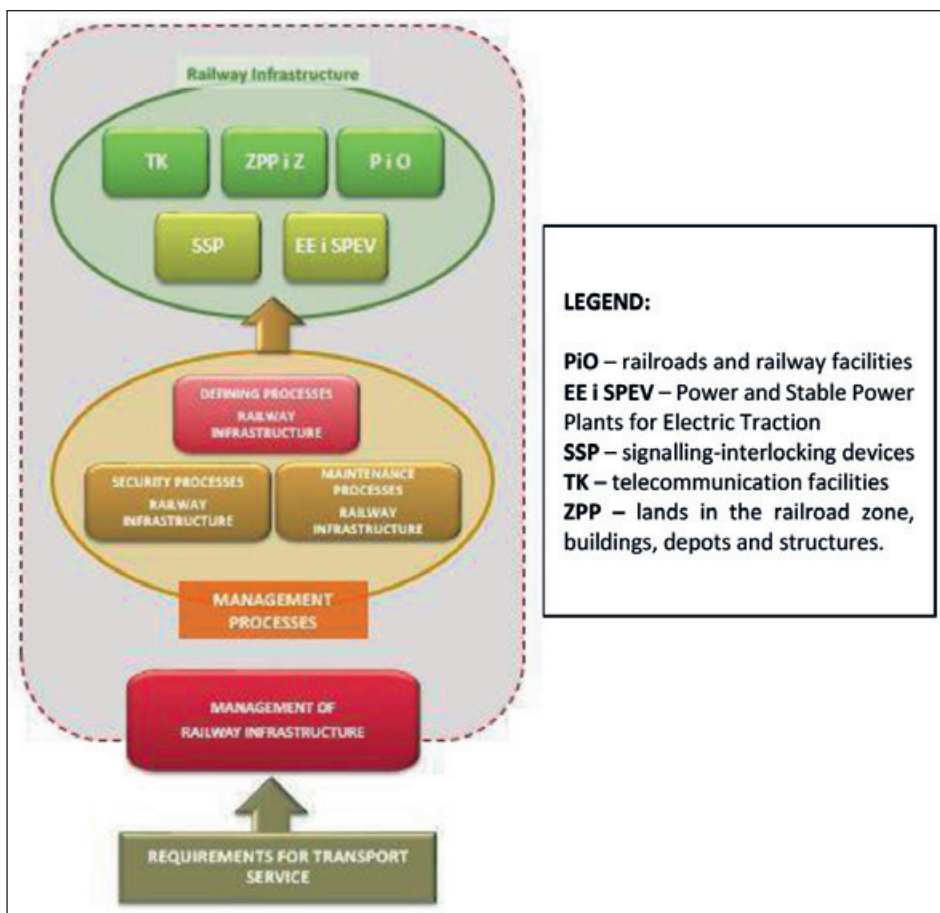


Figure 4. Railway infrastructure management (source: authors)

certain quality and their allocation. Maintenance ensures availability of resources in a state that ensures their efficient and effective use. Resource review involves evaluating, optimizing and developing resources to use them effectively and efficiently.

The international standard ISO 9001: 2008 provides requirements for infrastructure management. Starting from the fact that the transport or transport service is the basic product of the railway as a railway organization, it must define, provide and maintain the necessary infrastructure necessary to achieve compliance with the requirements of such service as its product.. [5]

Railway infrastructure enables the design, development, implementation and provision of delivery services for transport services, and within these processes these processes are implemented and their results depend on it. Without adequate railway infrastructure and its proper maintenance, the desired results in the provision of transport services will not be achieved.

The requirements for railway infrastructure management may be illustrated in Figure 4.

The overall process of managing an organization involves choosing a process that requires improvement. In order to be able to do this, it is necessary to define the processes and their users beforehand and it is always defined from the perspective of users of the RIoM routes. In the first phase, the following questions are asked:

- What products or services are the result of the process? In railway infrastructure, everyone should ask themselves what is actually the result of their work or the process in which it participates. This may be relatively obvious in manufacturing, but it is not quite so clear in administration.
- Who are the users of these products and services (they can be internal or external)? Everyone in the railway infrastructure should be aware that they are working for a user and that their mission is to meet their needs. In order to build this awareness, it is necessary for everyone on the railway to ask themselves: who are my customers?
- What do users really need? Railways should ask themselves whether their "products" and services satisfy what the user of those products and services needs.
- How can this be measured? Adaptation to customer needs is not practicable if those needs cannot be expressed through some quantified characteristics of the product or service in terms of quality, time of use, price levels, operating and maintenance costs, utilization of available capacities, number of executors, qualification structure, age structure of employees, their effectiveness and efficiency in the workplace and the like. Management will give more importance

to everything that is quantified. *Peter Draker rightly argued that if you can't measure something, you can't even manage it.* [4]

- What are the critical processes whose improvement can meet the needs of the users of the RIoM routes? Once the processes and their users have been identified, a selection of processes will be selected that will be enhanced. It is common to select the processes that have the most problems and whose enhancement creates added value for the consumer, service user or customer.

Process evaluation is most often measured in terms of quality, time cycle process, productivity, added value. Some researchers believe that performance measurement is often also a motivation to achieve something - what was measured in the Montenegrin Railway Infrastructure is what it had been done.

There are different interpretations of why such changes have taken place in the international environment, and one of them is the view that the world is going through certain cycles and stages of development, the so-called *long waves*, characterized by changes within various activities, including transformations of economic systems and policies. Technological and knowledge development are important factors and drivers of such processes.

Philip Kotler warns that the world market is entering the zone of the "vicious circle". In his book *Ten Deadly Sins in Marketing*, this famous professor states: [6]

"No matter how cheap a company can produce its product or provide a service in the domestic market, it cannot be the cheapest as long as China has something to say and offer." An example is the arrival of a "*China Railway Express*" freight train with equipment for the construction of high-speed rail in Serbia.

It arrived from China to Belgrade with 510 tons of high-speed line construction equipment on the Belgrade Center-Stara Pazova route, 34.5 kilometers long, as part of a project to build high-speed lines up to 200km per hour between Belgrade and Budapest. The train consists of 28 wagons with containers. The train departed on September 24th, 2019 from the Chinese city of Jinan, in the Shangdong province, and traveled about 10,500 kilometers, with the train route: China-Mongolia-Russia-Belarus-Poland-Hungary and Serbia-Belgrade, arriving on October 24th 2019.

Rail is one of the central traffic modes of China's Global Belt and Road Initiative, and high-speed rail from Belgrade to Budapest is an integral part of the project. Is this the announcement of fierce competition to the operators using the railway infrastructure of Montenegro, are we ready for such an organization with the existing organization, equipment, functionality of all employees. It is natural that all manufacturers will look for an operator that has better quality services at lower prices in the pro-

vision of goods and passenger transport services, which inevitably can lead to a fall in employment in Montenegro and countries in the region. A decline in employment means less purchasing power and less sales. This creates a vicious circle. [11]

What is considered to be a limiting factor in the slow reorganization and restructuring is the capital structure of the Railway Infrastructure of Montenegro AD in which the state is majority owner with 72.44% as shown in Figure 5. In the countries of Western Europe and the USA the capital structure, the organization, operation and performance of the railways are regulated differently, privately owned and defined subsidies on an annual basis, investments, maintenance and regular revenues and their monitoring of operations and achievement of the basic goal defined in their strategic documents, mission and vision of the Railway Infrastructure of Montenegro.

turing or certain reforms towards better organization, planning, implementation, control, use of routes, pricing for the operators / users of the freight or passenger transportation services, more employees than actually needed in relation to the installed capacities, the costs of which further burden the current business and reduce the possibility of allocating more funds for the current maintenance. It is important to note that the annual ongoing maintenance of the railway is approximately EUR 72,000 thousand per kilometer, excluding the additional costs incurred by natural factors (natural disasters), human factors and treated as extraordinary events, which are certainly remedied / repaired at the burden of the current operating income of the RIoM. [10]

The development of an integrated model of strategic management in the RIoM is a complex issue that needs to be monitored / improved on a daily basis due to accelerated technical and technological development

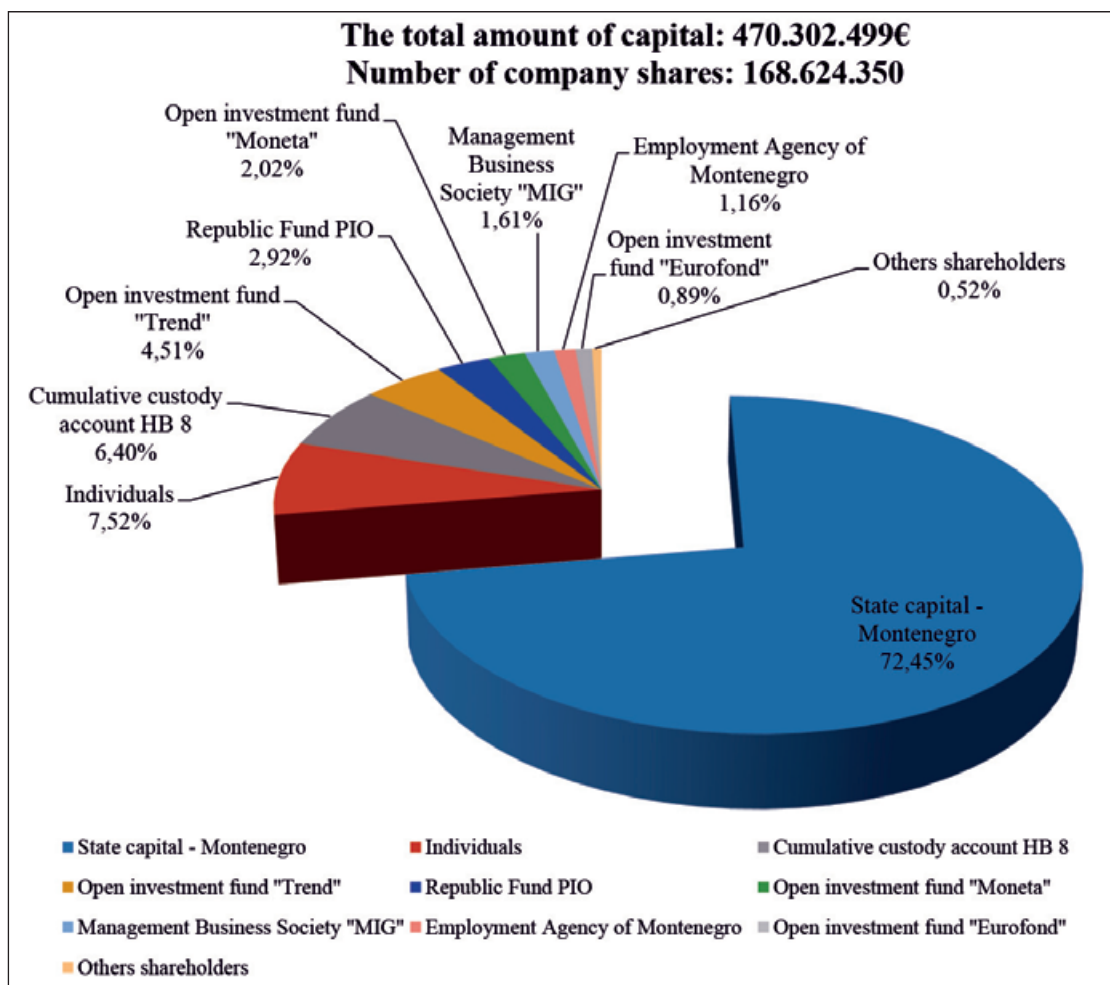


Figure 5. Ownership structure of RIoM JSC. Podgorica [10]

The difference in ownership structure certainly has a significant impact on the time dimension of the reform process, since state-owned railways operating in market conditions have more time and space to delay restruc-

and alignment with other railways in the surrounding area, as well as other modes of transport / goods transportation and passenger transportation services at different destinations, as well as the degree and quality

of maintenance and the degree of use of the tracks. The Integrated Strategic Management Model of the RIoM through analysis of the existing Knowledge Fund confirms that the comprehensiveness and integrity of the RIoM strategic management model can be achieved by linking interdependent strategic management components, which are individually and thoroughly analyzed, systematized and observed through four basic phases of the general model for strategic management of organizations. namely: planning, organizing, leading and controlling.

In terms of market conditions, there is a difference, which, with the passage of time, is getting smaller, but is still significant at the moment. Namely, the railway infrastructure in Montenegro was built in 1976, when self-government is a social system and a system that organizes and manages state property in a completely different way.

This is also the time when the state controls pricing through its administrative measures and the way of doing business in relation to the transition period from 1990 to 2003, and doing business in times and conditions of a liberal and open market, a model that tends towards Europe but which development is extremely slow and perhaps the most difficult to achieve goal of all existing goals, because of the slow transition in large economic systems / enterprises, the volume of production of various goods in the economy of Montenegro and the surrounding countries has been reduced, as well as the transportation of different cargoes and the provision of passenger transport services. The percentage of use of the Port Bar in Montenegro has decreased and the decline in the physical volume of production in the surrounding countries has strong negative economic reflections on its own available capacities due to the reduced capacity utilization and the large number of employees not adequately allocated to the production needs, negative effects also affected the Montenegrin economy and the economy of the countries in the region, which had the conditions to use the railway for transport to different destinations, which is also limited by the volume of production, the quality of the product, the quantity of goods that can be realized on the international market, high cost per unit of product, packaging method, competition ratio, distribution channels from production-wholesale to retail to consumer as well as securing goods, warehousing, market position, product prices in the domestic market, regional and international markets.[3]

CONCLUSION

The Railway Infrastructure of Montenegro (ŽICG), is a complex techno-economic system, consisting of a large number of complex organizational units as structural elements (subsystems), in which appropriate planning decisions are also made. There is a great deal of

interactive connections between these parts, which indicates that the decisions made at the level of the lower organizational parts are multifaceted.

Planning on the Railway Infrastructure of Montenegro - JSC reflects the highest degree of complexity of decision-making of economic entities, since it is where decisive decisions are crucial for the functioning and development of railway traffic. Strategic (key) planning decisions define the basic directions, frameworks and constraints of railway development. These questions basically relate to: volume and structure of transport, modernization of transport capacities, volume and structure of investment, number and structure of employees.

Effective development management and decision making is only possible with the planned coordination of all relevant factors. All this indicates that in making these strategic planning decisions, a very high level of expertise, a high degree of constructiveness and coordination within ever-changing external factors from the environment is required, in order to ensure that rational and expedient actions are taken in the whole process of transport and business in order to achieve what better business results of the Railway Infrastructure of Montenegro (RIoM).

LITERATURE

- [1] Adizes, I., Change Management, Fifth Edition, Adizes, Novi Sad, 2005.
- [2] Adizes, I., Enterprise Life Cycle Management, Fifth Edition, Adizes, Novi sad, 2004.
- [3] Cerovic, B., Economic Transition, Articles, Faculty of Economics Belgrade, Belgrade, 2003.
- [4] Draker, F.P., Governance in a New Society, Adizes, Novi Sad, 2006.
- [5] Đuričić, M., Quality Management, Second Edition, Faculty of Management, Kruševac, 2004.
- [6] Kotler, Ph., How to create, master and dominate the market, Second Edition, Adizes, Novi Sad, 2004.
- [7] Luburić, R., The art of successful management, Grafotisk, Grude, Podgorica, 2010.
- [8] Popović, J., Bošković, B., When to expect the effects of railroad restructuring: the US experience, Professional paper, Belgrade, 2018.
- [9] Excerpts from Strategic Documents (Studies) of the Railway Infrastructure of Montenegro jsc./Željezničke infrastrukture Crne Gore AD/, Podgorica, 2008-2018.
- [10] Available bookkeeping documentation of RIoM (BS,BU i FI) for 2017,2018 i 2019.
- [11] www.vremeplov.ba, visit:14.03.2020.