THE ANALYSIS OF THE CFR TRAVELLERS SA ACTIVITY FROM THE VIEWPOINT OF EFFICIENCY INDICATORS

Elena SIMA, Associate Prof. Ph.D., ec.ing.
Romanian-German University of Sibiu

Abstract

The purpose of the paper is to make an analysis of the transport activity at CFR travellers SA based on the evolution of the main efficiency indicators in this field.

The purpose of the analysis is to accurately determine the advantages and disadvantages of this activity and to find ways to improve it.

We have chosen this activity because it has dropped in intensity during the last years and also because its quality is lacking in Romania.

The analysed period is 2007-2009 and graphics have been made to see the indicators' evolution and to allow the activity's assessment.

The European Union encourages railway transport because of its advantages and because it is probably the most environmentally friendly and it is one way to achieve sustainable transport.

Key-words: *indicators, efficiency, passenger, railway transport*

JEL Classification: L_{620}

Introduction

The paper aims the passenger railway transport activity and wants to establish its advantages and disadvantages, but also its possibility to improve by using the opportunities offered by the European Union.

The analysed issue is extremely important because the passenger railway transport is very popular and used in many European countries and also worldwide due to the advantages it offers but in Romania it has gradually deteriorated and nowadays it is no longer attractive to the public.

The analysis of this activity based on efficiency indicators calculated according to the data supplied by the company between 2007-2009 allows assessing the activity and, at the same time, to determine its evolution in time, and its result might represent a warning signal for the deciding factors in the field.

Road infrastructure had a more rapid development than rail infrastructure, which allowed an increase of commercial speed offered by road transport. The gap between commercial speeds of railway transport and the road transport could be amplified unless some major investments in the railway infrastructure are made. Currently, the road passenger transport already has for certain routes (Bucharest-Sibiu, Bucharest-Cluj, Bucharest-Campina) commercial speeds comparable to the fast trains at a lower price than this category of train.

Road carriers have an increased flexibility as compared to the railway transport considering the following: easier access to infrastructure (the completion of some bureaucratic and time-consuming procedures is not requested), the transport offer can be more easily measured according to the existing demand on the market (by the introduction of buses on the routes with low demand), introducing certain easier routes, choosing the stopping or departure locations. Road carriers are not required to comply with a particular one-year time schedule, since their licenses can be renewed every three months.

Road carriers are very easily available on the routes where CFR Passengers SA has shortcomings in terms of timetables, stations and stop time or the offered commercial speed.

It is important for the railway transport to overcome the current stage and to modernise, to meet the customers' requirements because it is an environmentally friendly means of transportation, being able to contribute to the development of a sustainable transport accepted by the European Union.

The latest specialty books mention the decline of passenger railway transport but it does not offer too much evidence to explain this phenomenon.

The literature's review on the subject

The fundamental objectives of the railway enterprises are presented in the paper The Railway transport management, written by Simut V. [7]:

- *At the level of rail infrastructure*
  - the rehabilitation of rail infrastructure according to the designed parameters of travel safety and the modernization of rail infrastructure to allow passenger trains to run at 160 km/h speed and freight trains at 120 km/h speed, with priority on pan-European transport corridors;
  - ensuring interoperability with the European railway transport systems by complying with its technical and operational parameters;
  - the privatisation of maintenance, repairing, industrial activity departments, of services and other such departments, which ensure the railway infrastructure exploitation.
- *For the passenger railway transport*
  - the orientation towards the market's tendencies and the customer's expectations;
  - improving the quality of railway transport services through a more flexible offer and a high level of technical availability;
  - increasing productivity of work and resources;
  - a large-scale introduction of information technology in management, statistics etc.;
  - adjusting the national safety regulations and compatibility of the rolling stock, both of the modernisation means and of the new, European ones.
- *For the rail freight*
  - the gradual decentralisation of the national company, so that the flexibility of the system is provided;

o alignment to the ISO international quality standards;

o reducing the response times of the system with the purpose to accomplish a better feed-back connection between the bottom and top of decisional pyramid;

o making some sectors profitable, by setting up some legally binding subsidiaries, which would allow private capital raising;

o the modernisation of technical equipment and working technologies at terminals and bringing them to the European standards.

Specific indicators of the rail transport activity are generally mentioned in most specialty books.

Theoretical approach

The nineteenth century brought the rail transport, as an expression of the perpetual need for more, safer, faster and over time it managed to develop continually.

In Romania, the railway transport, which currently faces a recession moment, has success perspectives only if it adjusts to the trans-European conventional transport system, thus turning into an open system, where interconnection with the other means of transportation is easy for the different interested economic agents.

This means of transportation has the chance to turn into a genuine engine of development, by accomplishing the already started or under development projects, at the same time involving an entire collateral industry and therefore demonstrating that we are able to understand and apply the European common language of development.

The results of the railway transport are important; it is an essential element of the economic and social development process, often covering a significant proportion of the national budgets. There is a strong correlation between the GNP and mileage. This helps development by facilitating both national and international trade, improving the population's access to jobs, education, health and other services.

An effective and efficient transport lowers admission prices and through this production costs and thus may lead to a higher economic prosperity. Increasing services' quality improves staff mobility and facilitates economic growth. These, in exchange, contribute to the social development and help reduce poverty, especially in countries in transition. In this way, both quantity and quality of railway transport infrastructure affect all aspects of life.

In Romania, railway transport has noticed passed the last years through some serious changes by institutional reorganisation based on the principle of moving from the technicist to the commercial concept, aiming to offer the best quality possible to railway transport service and to create the conditions for fully integrating the railway transport in our country into the European network.

Ever since the creation process of the National Passenger Railway Transport Company, the development of certain efficient activities was considered – meaning the development of transport activities that would meet the desired objectives. Effectiveness involves producing the desired results as opposed to efficiency, which shows how well resources were used to get the desired results.

Indicators are currently used to analyse the economic-financial situation of any company and they are presented taking into account the particularities and specificity of the activity developed by the public passenger railway transport companies.

- indicators regarding incomes;
- indicators regarding expenses;
- turnover;
- economic efficiency indicators:

– Gross profit;

– Net profit;

– Net profit/passenger, which represents the ratio between the obtained net profit and the number of passengers, sent in a particular period of time.

The measurement unit is lei/passenger.

$Gp_{/pass}$=Np/pass, where:

– Expenses for 1000 lei incomes (the smaller the expense is, the more efficient the activity is);

– Job productivity (passengers' route/employee);

– Specific fuel consumption (diesel);

– Specific consumption of energy;

– Total expenses per seat, represents the ration between total expenses and the trains' number of seats (carrying capacity).

– Total expenses per passenger-kilometre.

- Financial balance indicators:

– Claims and debts.

The evolution of main indicators

In 2009, while major infrastructure works have limited both the transport ability and speed on the main routes (Bucharest-Constanta and Bucharest-Brasov) and by extending the process of taking over the exploitation of certain interoperable departments by private operators, the evolution of passenger traffic has continued to be unfavourable, as it follows (table 1):

Table 1

The evolution of passenger traffic

	2007	2008	2009	2009/2008(%)
Sent passengers. (thousands)	93201	85753	75343	87,9
Passengers km (mil.)	8049	7417	6877	92,7

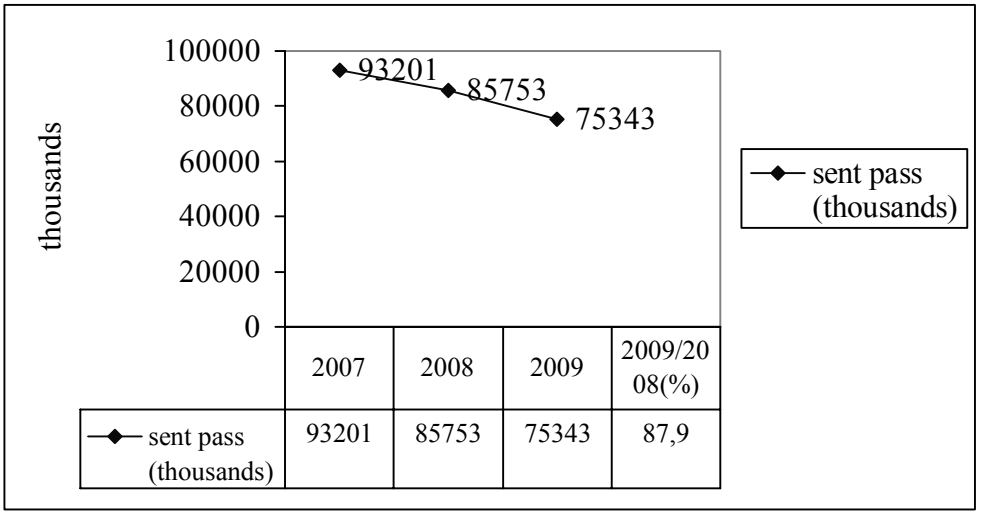


Fig. 1. *The evolution of sent passengers*

According to the graphical representation on the last three years (fig. 1) a gradual decrease of passenger traffic can be noticed, so that in 2007, 93201 passengers have been transported and in 2009 the number reached 75343 sent passengers.

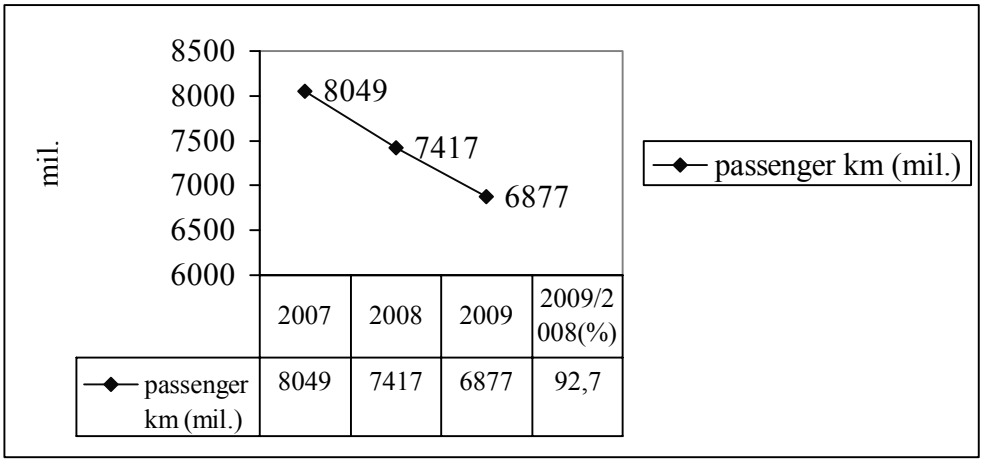


Fig. 2. *The evolution of passengers-km traffic*

We can also notice in the chart above a gradual decrease of passengers-km, therefore in 2009 there were 6877 passengers-km (mil.), as against 2007 when there was a total number 8049 passengers-km (mil.)

The transport offer expressed in seats-km has been permanently revised and adjusted, but a practical correlation to the actual traffic volume expressed in passengers-km was impossible, resulting, both for the trains' routes (train/km) and for seats-km, in a smaller decrease than that of the passengers' traffic.

Consequently, the average transport capacity usage decreased from 2008 (table 2)

Table 2

Use of passenger trains

	2007	2008	2009	2009/2008(%)
Intercity	5374	4672	4072	87,2
Fast trains	13954	13951	12014	86,1
Semi-fast trains	10702	11450	13646	119,2
Slow trains	37354	36536	36002	98,5
Train km-total (thousands)	67899	67117	66286	98,8
Intercity	1434	1354	1304	96,3
Fast trains	5321	5378	4641	86,3
Semi-fast trains	5263	5475	5640	103
Slow trains	12889	11805	11008	93,2
Seats km-Total (mil.)	24907	24014	22586	94,1

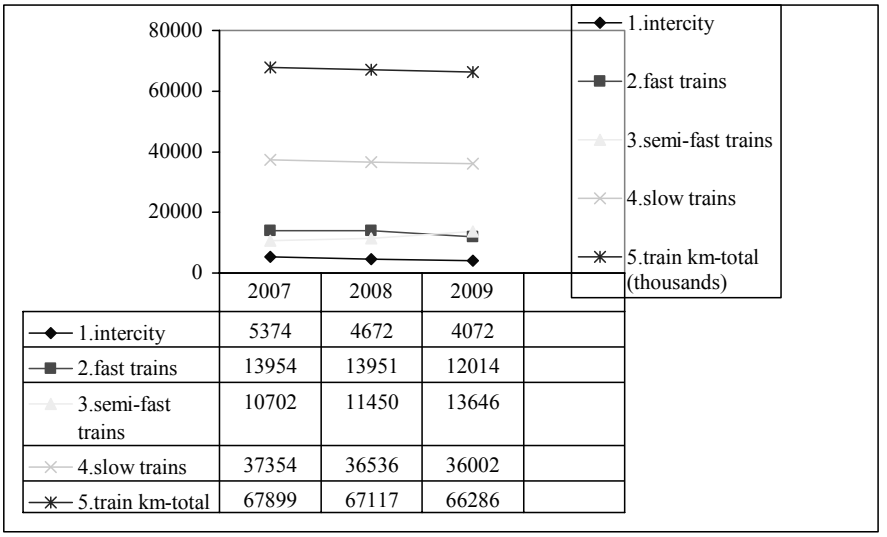


Fig. 3. *Use of passenger trains per train km*

According to the graphic representation of the use of passenger trains per train km, it can be noticed that (fig. 3):

The intercity trains registered a decrease of passengers/train km from 5374 in 2007 to 1072 passengers/train km (thousands) in 2009 – *curve 1*

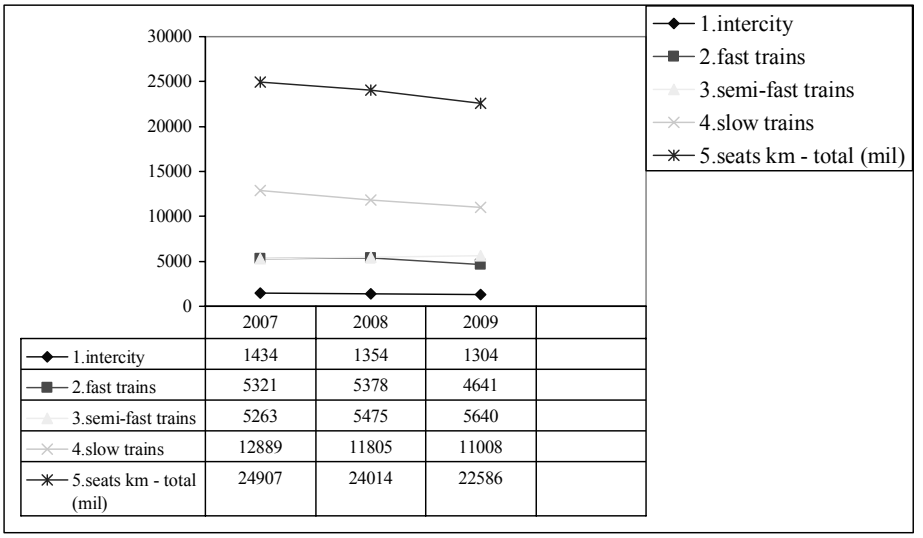
The fast trains also registered a decrease of passengers/train km from 13954 in 2007 to 12014 passengers/train km in 2009 – *curve 2*

We can notice an increase of passengers/train km for semi-fast trains, namely in 2007 there were 10702 and in 2009 it reached 13646 passengers/ train km – *curve 3*.

This increase of the passengers' flow for semi-fast trains is due to lower pricing than those for fast trains and intercity, to the running speed and higher comfort as against inferior trains (slow trains).

The slow trains registered a decrease form 37354 passengers/ train km in 2007 to 36002 passengers/train km in 2009 – *curve 4*.

Therefore, the total train km registered a decrease from 67899 passengers/ train km in 2007 to a total of 66286 passengers/train km in 2009 – *curve 5*.



	2007	2008	2009	
1.intercity	1434	1354	1304	
2.fast trains	5321	5378	4641	
3.semi-fast trains	5263	5475	5640	
4.slow trains	12889	11805	11008	
5.seats km - total (mil)	24907	24014	22586	

Fig. 4. *Use of passenger trains per seats km*

We can also notice the following changes in the above graphic representation (fig. 4):

There can be noticed a decrease from 1434 passengers/seat km (mil.) in 2007 to 1304 passengers/seat km (mil.) in 2009 for the intercity trains – *curve 1*

For the fast trains there can also be noticed a decrease from 5321 passengers/seats km in 2007 to 4641 passengers/seats km in 2009 – *curve 2*

In this case, too, there can be noticed, for the semi-fast trains, a slight decrease, namely that in 2007 there were 5263 passengers/seats km and in 2009, there were 5640 passengers/seats km – *curve 3*.

The slow trains registered a decrease from 12889 passengers/seats km in 2007 to a number of 11008 passengers/seats km in 2009 – *curve 4*.

Thus, regarding the total seats km, there has been registered a decrease from 24907 passengers/seats km in 2007 to 22586 passengers/seats km in 2009 – *curve 5*.

Conclusions

If the basic railway production (net tons-km, passengers-km) has increased significantly during the last century in Romania (therefore in 1981 the number of carried passengers was 3 times higher than that from 1950 and the volume of delivered tons increased more than 6 times during the same period), the situation has now degenerated a little [5].

We should mention that the decrease of passenger traffic was caused by several factors, including:

♦ the failure to correlate trains' timetable to the passengers' needs by establishing inadequate routes (departure hours, arrival hours and links between trains);

♦ high operating costs;

♦ tax collection by the state of railway infrastructure use, comparatively higher than the taxes to use road infrastructure, creating an unfair competition to the disadvantage of the railway transport;

♦ the state intervention in different ways in the two railway and road transport systems meaning that the road infrastructure is built, modernised and maintained with money from the state budget and for the railway infrastructure budgetary allocations are almost zero, its maintenance and repair is done entirely with money from the budget of the CFR SA railway company;

♦ Reducing in the number of economic agents and their staff structure, resulting in a smaller number of commuting employees.

The effects of the railway transport are important; it is an essential component of the economic and social development process, often covering a significant proportion of the national budgets. There is a close relation between GNP and mileage. This helps development by facilitating both national and international trade, improving population's access to jobs, education, healthcare and other services.

The European Union transport policy aims to regain the market, the safest and less polluting means of transportation, by taking into account the enormous social costs caused by the congestion of the other means of transportation, pollution and accidents.

This policy's landmarks are supporting the infrastructure projects, the implementation of new technologies, the liberalisation and development of a competitive rail market, unitary at European level, as well as redefining passengers' rights and obligations.

CFR Passengers' main priority consists of increasing the company's economic efficiency, by increasing the volume of the passengers transport, according to certain technical and economic parameters.

REFERENCES

Caraiani, G., *Logistica transporturilor*, Editura Universitară, Bucureşti, 2008.
Melnic, A. s.a., *Sisteme de transport*, Editura CD PRESS, Bucureşti, 2006.
Naşcu, I., *Principii de economia transportului*, Editura Sylvi, Bucureşti, 2001.
Nita, V., *Managementul sistemelor de transport*, Editura Tehnopress, Iaşi, 2002.
Sima, E., *Managementul tehnologiilor în transpoturi*, Editura, Burg, 2004.
Simuţ, V., *Management strategic în transportul feroviar – calea ferată în economia de piaţă*, Editura Publiferom, Bucureşti, 2000.
Simuţ, V., *Managementul transportului feroviar*, Editura ASAB, Bucureşti, 2003.