MOTOR TRANSPORT DEVELOPMENT MANAGEMENT IN REGIONAL RESORT AGGLOMERATIONS: THEORETICAL AND METHODOLOGICAL ASPECTS

GERENCIA DEL DESARROLLO DEL TRANSPORTE MOTOR EN AGLOMERACIONES DE COMPLEJOS REGIONALES: ASPECTOS TEÓRICOS Y METODOLÓGICOS

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RESUMEN
El objetivo de esta investigación fue estudiar los servicios de viaje urbano y la aglomeración de complejos regionales (AR) del de territorio Krasnodar. El método de investigación fue una encuesta y los datos estadísticos se recopilaron a través de entrevistas e investigación de campo. Los hallazgos mostraron que el campo de los servicios de transporte fusiona muchos componentes y determina sus interacciones y capacidades. Los resultados de la investigación también indicaron que los Servicios de transporte de pasajeros en la región de la RA tienen el potencial requerido y las fuentes para el desarrollo de un proceso competitivo y racional.
Palabras clave: aglomeraciones de complejos regionales, red de rutas, transporte en autobús, formato de servicio de transporte de pasajeros.

ABSTRACT
The aim of this research was to analyze urban travel services and Krasnodar Idem regional resort agglomeration (RA). Research method was a survey one and statistical data were collected through interview and field research. Findings showed that the field of transport services merges many components (sub-systems) and determines their interactions and capabilities. Research findings also indicated that Passenger Motor Transport Services (PTS) in RA region has the required potential and sources for development of a competitive and rational process.
Keywords: regional resort agglomerations, route network, bus transport, passenger transport service format.

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INTRODUCTION

Transport as one of the effective and influential sectors on economy should develop and improve in concordance with other social-economic sectors. Efficiency of transport systems has a direct relationship with economic growth and sustainable development. With precise analysis and investigation, the strategic role of transport systems in sustainable development gets clear. Besides social and economic growth, one of the most essential requirements of every society is the issue of transport industry development and improvement of transport systems efficiency. Some economic experts believe that transport is the body and essence of progression.

Expansion of transport problems, and its enormous amounts of social-economic costs has led to utilization of transport demand management approach for better use of society's transport resources. Due to reasons such as lack of technology and high costs of upgrading it, as well as changing the transport habits of citizens and political considerations, transport management policies usually continue to stay for a long time; therefore, the need to take more efficient policies on the basis of strict models can be seen. Transport sustainable management takes into consideration the effects of transport development on economic efficiency, environmental issues, resources consumption, land usage and social justice, and assists in reducing environmental effects, escalating transport system productivity, and improving social life quality. The goal of that system is to increase efficiency and movement of goods, services and people with the minimum of availability problems.

STUDID PROBLEM RELEVANCE

Our planet becomes more and more urbanized. At present, the urban population exceeds the rural population. About 55% of the world population lives in cities, about a quarter (23.9%) of the world population lives in urban areas with the population of 1,000,000 or more. In Russian Federation, the level of urbanization is higher than the average one in the world, and the level of agglomeration development corresponds to the world average. 74% of population lives in Russian cities (UNITED NATION, 2005).

A Resort Agglomeration (RA) is a set of compact settlements and urban districts (municipalities) within the territory of which they formed a complex and dynamically developing resort system with seasonal and pendular external and internal population migration, intensive industrial, infrastructural, social, economic, marketing communications, transport links, with the general use of adjacent territories (including coastal ones) and resource and recreational development potentials (California Coastal Commission, 2013).

The development of regional RA leads to a number of problems, including transport ones. In particular, the residents of suburbs often bear unreasonably high

transport costs; They do not have an opportunity to use public transport in the evening and at night, do not have internal routes; they are forced to use the buses of inadequate capacity, etc. And in the "peak" periods of the summer holiday season, this problem is aggravated by an impulse inflow of potential vacationers and tourists into the regional RA (up to 3 times higher than during a winter period) (Kravchenko, Guber, Quigley, Koestel, Gandhi, and Ostrom, 2018).

In the conditions of RA, the quality of local population life and a comfortable stay of tourists is closely connected with the sphere of transport services, an effective functioning and development of PTS[3], around which they create a certain infrastructure, marketing links, financial and credit relations, etc (Kravchenko and Kravchenko, 2017).

The efficiency of functioning and the level of passenger transport development affect many spheres of society. It is possible to distinguish between the economic and the social functions performed by them only conditionally: a specific result of transport activity usually gives both a social and an economic effect that is not always amenable to a strict quantitative assessment. Theoretically, the products of passenger transport are the result of displacement, i.e.a useful effect created by technological process (Kravchenko, 2015).

MAIN MODEL (2015) THEORETICAL PART

The provision of high-quality PTS services to the population and holidaymakers in regional RA should be determined by various methods of competitive PTS1 format development (Kravchenko and Kravchenko, 2008, Kravchenko, 2010 and Kravchenko and Kravchenko, 2011). In the authors' opinion, the successful resolution of this issue is related to the process of passenger transportation service organization formation and structuring and PTS development and operation management. This is explained by the fact that PTS service sector integrates many elements (subsystems), determines their interactions and resource capabilities, which make an essential resource potential for the development of a rational and a competitive PTS format in regional RA under the declared level of transport service quality (Sampaio, Neto and Sampaio, 2008).

Integrative relations have information, communication and commercial basis, which are determined by contractual obligations to plan and optimize the technical resource for the declared level of transport service quality in regional RA. In this regard, an effective implementation of the declared targets requires the following (Kravchenko et al, 2017, and Kravchenko Dernovoi, 2018):

- To determine the boundaries of SOPAT jurisdiction and benefits;

[3]Passenger Motor Transport Service

- To ensure the readiness (the demand) of a potential consumer for PTS transportation (the declared format) in accordance with the requirements of the conjugated market types for resort and tourist services;

- To ensure the interaction of rolling stock and its component producers with business entities (large, medium, small and micro businesses) for which the necessary mobile resource is produced, with the participation of financial and credit organizations (in this process);

- To carry out new construction, repair, reconstruction and the maintenance of highways systematically for the purpose of a route network and transportation technology effective planning (development) in accordance with the declared level of transport service quality and with an intellectual management of traffic on city road network;

- A centralized administration of the whole system of transport services for the population, the development of transport supervision functions and its effective interaction (according to the author suggestion) with the center for a passenger motor transport service development that regulates the resource requirements of economic entities for the implementation of resource, technical and technological standards concerning the quality of transport service level (p.46).

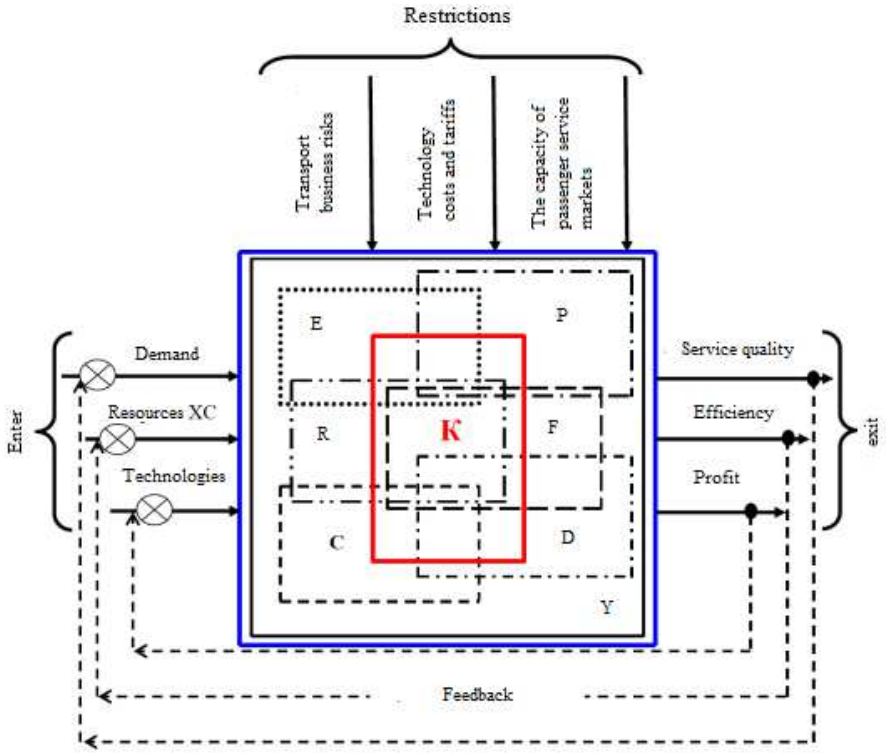
A formalized definition of SOPATS can be represented in the form of a set-theoretic model:

СОПАТС ={К,П,Ф,Р,Д,Э,С,У}. (figure 1)

where K is the "Consumer of transport services (customer, PTS market capacity)", П Thus, the operation of SOPATS is the result of the abovementioned subsystem interaction, the graphic interpretation of which is presented on Figure 1 as a cybernetic scheme (model).

The cybernetic scheme (model) makes it possible to analyze the implementation of targets by a necessary and a sufficient (normalized) quantity of resources.

Figure 1. Cybernetic scheme (model) for resource potential management of an integrative system for the organization of passenger motor transport services: controllable elements (of subsystem)



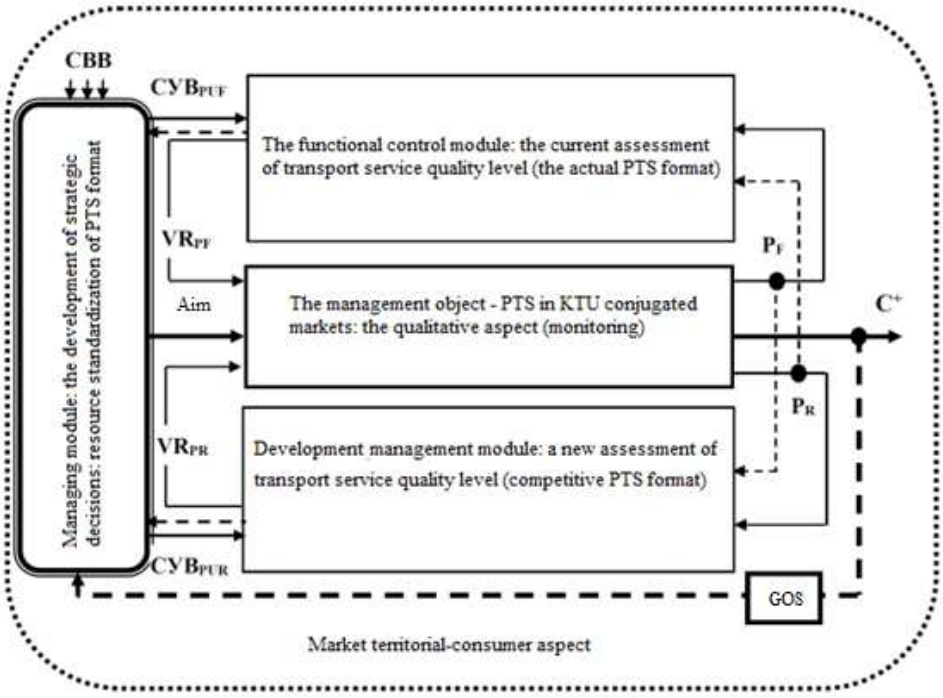
By:JM Bradley (2015)

Varying the input parameters (demand, resources, technology) the SOPATS performs the changing of its interaction components (subsystems) in such a way as to provide (by the best way) the implementation of the stated target attitudes at exit (by service quality, operational efficiency and profitability), taking into account the external limitations (risks, costs, prices, market capacity and their seasonality). Given the abovementioned, it is possible to consider PTS as a resource-balanced, coordinated, self-supporting business system with integrative marketing and logistics communications, focused on integrated personal mass maintenance of the local population, tourists and travelers in the cycle of service quality continuous improvement.

The development and the regulation of integrative marketing and communications logistics in a business system allows you to provide a continuous satisfaction of consumer demand by the types of services and transport technologies with PTS format simulation under the declared level of service quality. A complex and a difficult problem under analysis determines the necessity of a dual-process model

development, which takes into account the implementation and the simulation of the control processes by PTS development in regional RA (Figure 2) (Kravchenko,2015, Kravchenko, 2014, Kravchenko, 2013 and Kravchenko, 2010).

Figure 2. Process model of passenger motor transport service (PTS) functioning and development management in regional resort agglomerations



By: JM Bradley (2015)

SED - a set of external disturbances (seasonal factor of consumer activity, the influence of competitors, the requirements for quality level and PTS legal aspect); СУВPUF, СУВPUR– a set of controlling internal disturbances on a control object for the control modules by operation and development respectively (with local feedbacks); MUF, MUR –the evaluation of the PTS quality level for the operation and development control modules, respectively; VRPF, VRPR,– the vector of management decisions on the management object (PTS) from the modules of functioning and development management, respectively; PF, PR – key quality assessment indicators in the modules of functioning and development management, respectively; C+ - the result (the demand is satisfied, the quality of transport services is ensured, the effect of declared amount of profit obtaining is achieved); MF - the main feedback providing the information transfer to a control module. The management module provides the development of strategic solutions for target market determination concerning resort and tourist services (RTS) with

an increased potential for consumer demand, as well as the resource standardization of PTS consumer format, corresponding to the declared level of service quality based on the updating of integration processes.

The generated two-loop process model explains the need to harmonize the process of management system adjacent modules operation (operation and development management) for which PTS is the target covering the conjugated types of tourism and travel services (TTS) markets in regional RA which are characterized by different transportation potential and an uneven development of service and transport infrastructure. The studies have shown that (Nurgaliyeva ,Auyezova and Kosmuratova, 2018):

The saturated PTS market with a developed service and transport infrastructure in which the probability (P) of a planned profit obtaining from passenger transportation makes 0. 90-0. 99, which is conditioned by a stable passenger traffic, a greater population transport mobility, the accessibility of transport services, a regular traffic, a greater density of a route network in city districts, tariff formation, the possibility of a land-based type of passenger transport to move to targets, a higher level of transport service development, a high population density, a direct trip, a more developed system of situational control centers for transportation process, a higher motivational interest of business entities to the development of the transport business due to its short payback period (p.82).

RSI in the passenger transportation service organization (SOPATS) system can be considered additionally as (Kravchenko 2018, Kravchenko, 2017, Kravchenko, 2015 and Kravchenko, 2011)

- Scalable controller of PTS business processes;

- An integration platform, the use of which ensures the competitiveness of tourism product increase at the markets of resort and tourist services of different status, on the basis of coordinated interaction between transport and tourism companies during the implementation of joint business processes and contracts;

- A high-tech economic entity in the resort and tourism sector of the regional economy, ensuring PTS efficiency and competitiveness increase through the development and the implementation of unique and integrated transportation technologies for all motivated participants of the integrative transport business (p.25).

METHODOLOGICAL ASPECT

The rolling stock of road transport is a strategic element of PTS infrastructure, from the functional format on which the efficiency and effectiveness of the entire sphere of transport services in the regional RA depends essentially. The most important

characteristics of this type of resource are its quantity, structure and rolling stock distribution on a route network by classification types, the number of which is determined by the requirements of consumer demand and the level of transport service quality.

The solution of PTS format optimization problem (the structure and the quantity of motor transport in the regional RA) should be based on the following principles (Kravchenko et al, 2017):

The rolling stock for the sphere of passenger motor transport services should be chosen from the conditions of population and tourist needs most complete satisfaction in personal transportation.

At that, the level of transport service quality should be set by SOPATS from the outside and is determined by a standard, the value of which depends on consumer demand, the technical and technological capabilities of carriers, as well as on strategic and regulatory aspects of administration (p.92).

The noted connection between two tasks confirms the necessity and the correctness of the proposed optimization principle for the number and the structure of the rolling stock fleet from bottom up once again, as this allows to solve the problem of PTS format normalization to the declared level of transport service quality more objectively.

SUMMARY

In the conditions of regional RA, the quality of local population life and a comfortable stay of tourists and holidaymakers are closely connected with the sphere of transport services, PTS effective functioning and development, around which a certain infrastructure, marketing links, financial and credit relations are created, and a certain format of the transport and technological servicing of consumers by passenger motor transport (PMT), etc has created.

The population needs for PAT services are related both to the production activity of local population (trips to work, business trips, etc.), and with cultural and everyday necessities (tourist and excursion trips, the trips to sanatoriums and boarding houses, rest homes, to a beach, etc.).

At the same time PMT is an important part of economy territorial structure and an integral part in the organization of cultural and economic ties, both intraregional and interregional throughout the country. It provides the mobility for production and personal needs, unites the remote areas of large cities and urban agglomerations in a single complex, contributing to socio-economic and scientific and technological progress.

In this regard, the efficiency of PTS functioning and development in general and PMT in particular determines the level of passenger transport service quality and culture in accordance with the modern requirements of consumer demand, taking into account the spatial planning features of city development (agglomerations) and the resource capabilities of transport operators.

CONCLUSIONS

According to the results of the analysis, It is determined that the features of passenger motor transport service (PTS) functioning and development management in regional RA taking into account different types of markets for passenger transport services: saturated, developing one and with a limited growth potential. A rational approach was proposed to optimize PTS format by the number and the structure of the rolling stock fleet of bus transport under the declared level of transport service quality, taking into account the influence of transport service seasonal factor for the population in regional RA.

The use of a rational approach allows us to find not the most optimal solution of a problem, but only its deviation from an actual solution. This approach is based on the assumption that the number and the structure of the bus fleet changes over a number of years in accordance with the population needs for transportation, and, therefore, approaches its rational value.

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