

# **Project management of the system for regional partnership of the organization of the automobile transport in the development of the system of technical preparation of the vehicle parks**

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**Abstract:** there had been developed a system model for project management for the development strategy for automobile transport organizations (ATO) following the stages of its life cycle on the basis of assumption which is the base of the business model of the regional partnership of ATO in the development of system for technical preparation (STP), about the increase in the efficiency of the common (centralized) performance of some functions and /or works on technical preparation of vehicles on the manufacturing and technical base (MTB) of some ATO or mutual order for these services from other suppliers (outsourcing).

Key words: organization of the automobile transport, regional partnership, system model, life circle, strategy

## **1. Introduction**

The analysis of the vehicle park structure, used for passenger transportation in Ukraine showed that the above parks are characterized by prevailing the small carriers, big number of car makes, their models and vehicle modifications, which are operated by one enterprise simultaneously; relatively long operation period of the vehicle. This, together with such factors as uncertainty of conditions, in particular as for the state of road infrastructure, vehicle operation, stipulates for the complexity in vehicle maintenance in the level, required by the competition and the requirements of the state (municipal) regulations on the corresponding markets.

One of the approaches to the creation of the efficient STP of the vehicle parks with the ATO is the regional partnership.

## **2. Review of the latest issues**

The interest to the issues of the formation and the development of the interorganisational alliances is being traced in the scientific researches beginning with 1970-1980 of the XX century. In their paper, published in 1978, Dj. Pfeffer and G. Salancik came to the conclusion, that the understanding of the market in the developed economies as the "open" arena, unlike in traditional, is changed with the organizational, regulatory and bruch systems, connected between each other by pretty complex relations [1, c. 106]. The authors emphasize that the organizations may adapt to the requirements of the environment (the adherers of the environmental school in strategic management also keep to this point of view) and may try to change the latter in a way it answers their peculiarities (school of authority in strategic management, theory of dependence on external resources) etc.

The notions of "team strategy", "common enterprise", "strategic alliance", "business network" were introduced, as is noted in [2, p. 211], in the development of work [1] within the development of the school of authority. In accordance with the conceptual principles of the latter, along with spreading the interorganisational cooperation, the formation of the strategy gradually transforms into the common process with the participation of some partners. The possibility in the creation of team strategy implies, that during the negotiations

each separate organization must consider the complexity of the organizational relations in the business network. The latter, within the frameworks of the models of the organizational development of the authority school, is considered as the network of different types of cooperation with other units of the network by the persons, including the suppliers, competitors and customers [3]. Summarizing the research principles of the authority school, G. Minzberg notes that it proceeds from the fact that apart from the corporate strategies and strategies of business units, the organizations must develop strategies on the level of the personnel, which consider the complex system of the mutual dependences. These dependences are the integral part of the cooperative society, which results in the fact that each organization appears to be integrated in the system of the so called shared unit, the nature of which does not allow the isolated actions. The cooperation spirit dominates in this situation, the organizations gradually reject the orientation on the competitive antagonism. The attention shall be paid to the issues of institutionalization of the alike activities [2, p. 212].

The conception of the business networks became one of the decisive in the formation of the theory and practice of strategic alliances as the variants of the corporative agreements, usually made between the suppliers and consumers or partners, and the latter remained competitive in other spheres. The notions of “common enterprise” as the strategic alliance, in which partners take equal positions in the new business and the notion of “corporate agreement” as the situation with the unequal positions are being differentiated. The comparative analysis of the variety of strategic alliances is presented in [4]. The objective of the paper is to form the system model of the project management of the regional partnership of ATO in the development of the system for technical preparation of the vehicle parks.

### **3. Main part**

The presented assumptions as for the formulation of the strategic alliances must be considered in conditions of the development of the theory of project management of partnership of ATO in the development of CTII of the vehicle parks and organizational, technical and economic systems. This partnership at the same time, proceeding from mutual execution and a possible mutual ordering services for technical preparation of vehicles parks by the ATO partners requires the analysis of the strategic base of the outsourcing. Outsourcing is considered to be one of the preconditions for the formation of the strategic alliances. Outsourcing as an alternative to the execution of certain activities by the own forces was researched in the theory of the operation costs. This theory, as one of the theories of the organizational development proceeds from the fact that during the creation of the business organization it is necessary to consider the uncertainty of the environment composed of different (by the stage of risk and uncertainty) supplies and/or consumers.

Since any organization, following this theory, strives to build an organization of higher level to be able to control over the behavior of those supplies and/or consumers through the corresponding mechanisms.

When the own operational costs of the organization (costs for transactions) are higher than those on the open market, it is appropriate to apply to the latter, having made an outsourcing agreement.

In the context of formation of goals of the organizational development in conditions of outsourcing introduction, the regulations of the theory of dependence on external resources are of interest. In accordance with this theory, which proceeds from the fact that

the organization strives for the controlling over the external (in relation to it) environment for the achievement of the own profit. Since the organization cannot create the necessary recourses within the “own limits” economically efficiently, looking for variants, which allow it to influence the external environment. This means the development of the organization through transformation (business merger, cooperation) and other interorganizational agreements.

For example, historically, having in mind the improvement of the results of their activities, the organizations of different branches strived to acquire control over the technological stages proceeding the main production or are the following on its way. That is, they actually took the way of creation of the vertically integrated corporative structures, which may be considered following the results of the strategic choice of the enterprise in conditions of limited recourses.

The last ten decades testify to the opposite tendency – the organizations expect to increase their competitiveness, concentrating on their activities, considered as the principal ones.

Under these circumstances there is the transition from the vertical to so called virtual integration. To make this transition successful the manager has to master the approaches to managing the assets and processes, which they cannot control directly, but have to follow the their efficiency of functioning [5, p. 8].

Today the “soft” international formations as the net organizational forms are becoming more widely used.

They are created on the bases of the agreement relations, on the base of the mutual exchange of recourses. The organization, participating in such an agreement, is specialized on the key profile types of works, where it has the competitive advantages, the other – non profile – it transfers to other organizations on contractual bases, that is to the other members of the network, which may perform them more efficiently. The notion of non-profile activity is associated with the conception of the “central (key) competence of the organization” introduced in 1990 by K.K. Ptahalad and G. Hamel as the means of combining the recourses and abilities of the organization for the achievement of the real result [6].

Under the considered conditions the advantage in the using resources is achieved due to the fact that the organisation does not have to hold (produce) all the necessary resources for the main manufacturing, but can use the assets of other organisations, which may be located in different places of the chain. The conception of management of the supply chain may be a classical example in this case.

Proceeding from the assumption, laid in the base of the business model of the regional ATO partnership in the development of STP about the improvement of the efficiency of common (centralized) performance of some separate functions, and/or works on technical preparation of vehicles on MTB of some ATO or mutual ordering of the execution of these services by other organisations (on the base of the outsourcing), the system model of the project management of the ATO strategic development as the stages of its life circle, had been developed with the consideration of the approaches, suggested in [7], may be improved taking into account the system principles of individualization and integration.

On the stage of the goal setting, the goal level  $G_{2j}^1$  may be written as follows:

$$G_{2j}^1 = G_{2j}^1 (G_{2j\text{инд}}^1, G_{2j\text{инт}}^1), \quad (1)$$

where  $G_{2j\text{инд}}^1$  – subset of local goals of individualization as for the project of the formation of the strategy life circle to the STP ATO on the j-th time interval;

$G_{2j\text{инт}}^1$  – subset of local goals of the integration as for the project stage.

The formation of the life circle of the strategy to the STP ATO on the j-th time interval.

Correspondingly, the target level  $G_{2j}^2$  may be presented as:

$$G_{2j}^2 = G_{2j}^2 (G_{2j\text{инд}}^2, G_{2j\text{инт}}^2), \quad (2)$$

where  $G_{2j\text{инд}}^2$  – subset of local goals of individualization as for the project of the stage of the development of strategic portfolio of the life circle of the strategy to the STP ATO on the j-th time interval;

$G_{2j\text{инт}}^2$  – subset of local goals of the integration as for the project stage of the development of portfolio of the life circle of the strategy to the STP ATO on the j-th time interval.

The target level  $G_{2j}^3$  may be written as:

$$G_{2j}^3 = G_{2j}^3 (G_{2j\text{инд}}^3, G_{2j\text{инт}}^3), \quad (3)$$

where  $G_{2j\text{инд}}^3$  – subset of local goals of individualization as for the project of the planning and realization of the strategic portfolio of the life circle of the strategy to the STP ATO on the j-th time interval;

$G_{2j\text{инт}}^3$  – subset of local goals of the integration as for the project stage of the development of portfolio of the life circle of the strategy to the STP ATO on the j-th time interval.

The target level  $G_{2j}^4$  may be written as:

$$G_{2j}^4 = G_{2j}^4 (G_{2j\text{инд}}^4, G_{2j\text{инт}}^4), \quad (4)$$

where  $G_{2j\text{инд}}^4$  – subset of local goals of individualization as for the project of the stage of operation and devaluation of the strategic portfolio of the life circle of the strategy to the STP ATO on the j-th time interval;

$G_{2j\text{инт}}^4$  – subset of local goals of the integration as for the project stage of the operation and evaluation of the strategic portfolio of the life circle of the strategy to the STP ATO on the j-th time interval.

Correspondingly, it is necessary to specify the algorithm for the construction of the model of the goal achievement stage in the part of ensuring the activity of STP of the vehicle.

The above algorithm shall determine:

1) the subsets of the individualization function,  $F_{2j\text{инд}}^n$ , and the subset of the function of management integration,  $F_{2j\text{инт}}^n$ , which are necessary to realize in the project of the n-th stage of the life circle of the ATO strategy as for the STP of the vehicle on the j-th time interval for the achievement of the subsets  $G_{2j\text{инд}}^n$ ,  $G_{2j\text{инт}}^n$  :

$$G_{2j\text{инд}}^n \rightarrow F_{2j\text{инд}}^n \left\{ f_{2j\text{инд}}^n : f_{2j\text{инд}}^n \in F_{2j\text{инд}}^n, n = 1, 2, \dots, N; i = 1, 2, \dots, I; j = 1, 2, \dots, J \right\}, \quad (5)$$

$$G_{2j\text{инт}}^n \rightarrow F_{2j\text{инт}}^n \left\{ f_{2j\text{инт}}^n : f_{2j\text{инт}}^n \in F_{2j\text{инт}}^n, n = 1, 2, \dots, N; i = 1, 2, \dots, I; j = 1, 2, \dots, J \right\}, \quad (6)$$

2) subsets of the tasks for management individualization,  $O_{2j\text{инд}}^n$ , and the subset of the tasks of management integration,  $O_{2j\text{инт}}^n$ , which are necessary to solve in the project of the n-th stage of the life circle of the ATO strategy as for the STP of the vehicle on the j-th time interval for the realisation of the subsets  $F_{2j\text{инд}}^n$  i  $F_{2j\text{инт}}^n$  correspondingly:

$$F_{2j\text{инд}}^n \rightarrow O_{2j\text{инд}}^n \left\{ o_{2j\text{инд}}^n : o_{2j\text{инд}}^n \in O_{2j\text{инд}}^n, n = 1, 2, \dots, N; i = 1, 2, \dots, I; j = 1, 2, \dots, J \right\}, \quad (7)$$

$$F_{2j\text{инт}}^n \rightarrow O_{2j\text{инт}}^n \left\{ o_{2j\text{инт}}^n : o_{2j\text{инт}}^n \in O_{2j\text{инт}}^n, n = 1, 2, \dots, N; i = 1, 2, \dots, I; j = 1, 2, \dots, J \right\}, \quad (8)$$

3) subsets of methods and models for the solution of the tasks of management individualisation,  $M_{2j\text{инд}}^n$ , and subsets of methods and models for the solution of the tasks of the integration of management,  $M_{2j\text{инт}}^n$ , which are necessary to use in the project of the n-th stage of the life circle of the ATO strategy as for the STP of the vehicle on the j-th time interval for the subsets  $O_{2j\text{инд}}^n$  i  $O_{2j\text{инт}}^n$  correspondingly:

$$O_{2j\text{инд}}^n \rightarrow M_{2j\text{инд}}^n \left\{ m_{2j\text{инд}}^n : m_{2j\text{инд}}^n \in M_{2j\text{инд}}^n, n = 1, 2, \dots, N; i = 1, 2, \dots, I; j = 1, 2, \dots, J \right\}, \quad (9)$$

$$O_{2j\text{инт}}^n \rightarrow M_{2j\text{инт}}^n \left\{ m_{2j\text{инт}}^n : m_{2j\text{инт}}^n \in M_{2j\text{инт}}^n, n = 1, 2, \dots, N; i = 1, 2, \dots, I; j = 1, 2, \dots, J \right\}, \quad (10)$$

4) subsets of algorithms of methods and models for the solution of the tasks of management individualization,  $A_{2j\text{инд}}^n$ , and subsets of methods and models for the solution of the tasks of the integration of management,  $A_{2j\text{инт}}^n$ , which are necessary to use in the project of the n-th stage of the life circle of the ATO strategy as for the STP of the vehicle on the j-th time interval for the subsets  $M_{2j\text{инд}}^n$  i  $M_{2j\text{инт}}^n$  correspondingly:

$$M_{2j\text{инд}}^n \rightarrow A_{2j\text{инд}}^n \left\{ a_{2j\text{инд}}^n : a_{2j\text{инд}}^n \in A_{2j\text{инд}}^n, n = 1, 2, \dots, N; i = 1, 2, \dots, I; j = 1, 2, \dots, J \right\}, \quad (11)$$

$$M_{2j\text{инт}}^n \rightarrow A_{2j\text{инт}}^n \left\{ a_{2j\text{инт}}^n : a_{2j\text{инт}}^n \in A_{2j\text{инт}}^n, n = 1, 2, \dots, N; i = 1, 2, \dots, I; j = 1, 2, \dots, J \right\}, \quad (12)$$

5) subsets of software and hardware means for the realization of the algorithms of methods and models for the solution of the tasks of management individualization,  $P_{2j\text{ iHD}}^n$ , subsets of software and hardware means for the realization of the algorithms of methods and models for the solution of the tasks of management integration,  $P_{2j\text{ iHT}}^n$ , which are necessary to use in the project of the n-th stage of the life circle of the ATO strategy as for the STP of the vehicle on the j-th time interval for the subsets  $A_{2j\text{ iHD}}^n$  i  $A_{2j\text{ iHT}}^n$  correspondingly:

$$A_{2j\text{ iHD}}^n \rightarrow P_{2j\text{ iHD}}^n \left\{ p_{2j\text{ iHD}}^n : p_{2j\text{ iHD}}^n \in P_{2j\text{ iHD}}^n, n = 1, 2, \dots, N; i = 1, 2, \dots, I; j = 1, 2, \dots, J \right\}, \quad (13)$$

$$A_{2j\text{ iHT}}^n \rightarrow P_{2j\text{ iHT}}^n \left\{ p_{2j\text{ iHT}}^n : p_{2j\text{ iHT}}^n \in P_{2j\text{ iHT}}^n, n = 1, 2, \dots, N; i = 1, 2, \dots, I; j = 1, 2, \dots, J \right\}, \quad (14)$$

6) subsets of the results of the solution of the task of management individualisation,  $R_{2j\text{ iHD}}^n$ , and subsets of the results of the solution of the task of management integration,  $R_{2j\text{ iHT}}^n$ , which are necessary to use in the project of the n-th stage of the life circle of the ATO strategy as for the STP of the vehicle on the j-th time interval for the subsets  $P_{2j\text{ iHD}}^n$  i  $P_{2j\text{ iHT}}^n$  correspondingly:

$$P_{2j\text{ iHD}}^n \rightarrow R_{2j\text{ iHD}}^n \left\{ r_{2j\text{ iHD}}^n : r_{2j\text{ iHD}}^n \in R_{2j\text{ iHD}}^n, n = 1, 2, \dots, N; i = 1, 2, \dots, I; j = 1, 2, \dots, J \right\}, \quad (15)$$

$$P_{2j\text{ iHT}}^n \rightarrow R_{2j\text{ iHT}}^n \left\{ r_{2j\text{ iHT}}^n : r_{2j\text{ iHT}}^n \in R_{2j\text{ iHT}}^n, n = 1, 2, \dots, N; i = 1, 2, \dots, I; j = 1, 2, \dots, J \right\}, \quad (16)$$

Project management of regional partnership of ATO in STP vehicle parks may be described by the model, presented below (fig.1), following the system model of project management of strategies for the stages of their life circles of the development as projects.

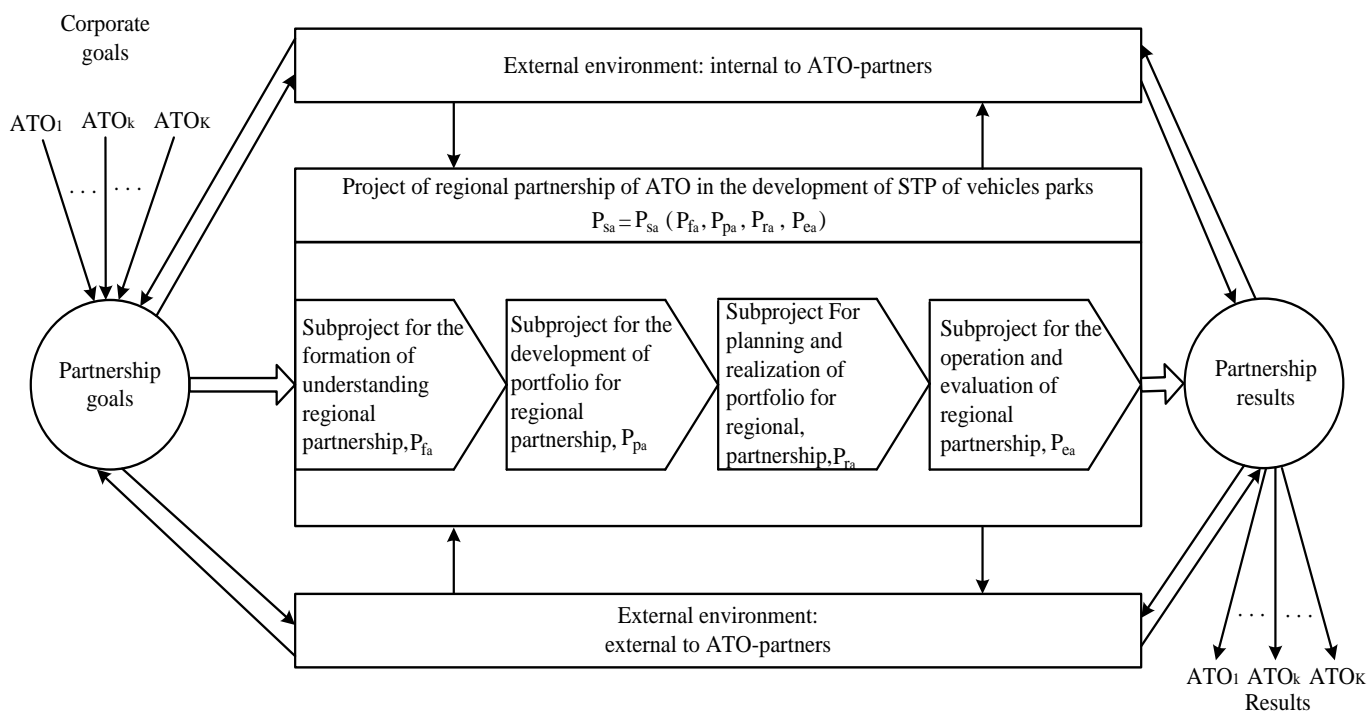


Figure 1 – System model of the project management of the regional partnership of ATO on the development of STP of the vehicle parks

The considered system model, which is of the descriptive character, may serve as a base, in particular in the part of goal setting and goal achievement, in conditions of creation and development of corporate systems for project management of the strategy for the ATO development as for the stages of its life circle, systems for projects management of regional partnership in the development of STP vehicle parks of ATO, which realize the corresponding business model of partnership etc.

#### 4. Conclusions

On the base of the system model of project management in ATO strategies - as for the phases of the life circle of the latter as strategies, as well as using the theory of strategic management and organizational development, in particular in the part of goal formation of the organization, there had been suggested the system model, which describes the conditions for project management for the system of regional partnership of ATO in the development of STP vehicle parks, taking into account the principles of individualization and integration.

The base of this partnership system, as the innovational business model, is the assumption about the improvement of efficiency of mutual (centralized) performance of some functions, and/or works on technical preparation of vehicles on MTB of some ATO or mutual ordering these services with the other enterprises (on the base of outsourcing in relation to ATO-partners).

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