

SCTMG 2021
**International Scientific Conference «Social and Cultural Transformations in the Context of
Modern Globalism»**

**PERFORMANCE INDICATORS IN PLAN FOR THE
DEVELOPMENT REGIONAL TRANSPORT INDUSTRY**

Isa Zoguevich Magomadov (a)*, Khalid Khamzatovich Aptaeov (b),
Idris Adamovich Apkarov (b), S. S. Serbiev (b), R. A-M. Mamatsuev (b),
Saidmukhmat Khasmagomedovich Mamasurov (b), Advan Muskhadzhiievich Istamulov (b),
Arthur Rasulevich Tagirov (b)
*Corresponding author

(a) Grozny State Oil Technical University n.a. M.D. Millionshchikov, 100, Kh.A. Isaev str., Grozny, 36400, Russia,
magomadov.isa@bk.ru

(b) Grozny State Oil Technical University n.a. M.D. Millionshchikov, 100, Kh.A. Isaev str., Grozny, 36400, Russia

Abstract

The structure of a strategic plan is described. The two-level system of strategic plans according to L.N. Ganshina is studied. Structural specification of the system of strategic documents in the transport sector showed that transport strategies correspond to the strategic plan for the development of the industry as a model, when there are several development scenarios with a different set of starting parameters and consequences, but the practical value of calculations is questionable. The structure of strategic plans for the development of urban passenger transport has been developed. The balanced Caplan / Norton scorecard is analyzed. We propose a format for a balanced development strategy and a portfolio of development strategies for the RTI whose practical fulfillment and feasibility should be ensured through a strategic plan. All resources, enterprises and employees of the regional systems are focused on the implementation of strategic goals through planning, motivation and control systems, related to a set of balanced indicators. The advantage of the BSC method is that companies which have implemented a strategically oriented management system starting from the lowest levels have a “frame of reference” that helps to determine behavior in accordance with the strategy at all levels. The issue of application of the balanced Caplan / Norton scorecard for the transport sector is studied.

2357-1330 © 2021 Published by European Publisher.

Keywords: Performance indicators, strategic plan, transport industry, regional



1. Introduction

The functioning of the RTI for the purpose of expanded reproduction of new products and services based on the balanced development of structural and functional subsystems of the transport industry (modes of transport, transport enterprises) and its backbone elements (human resources, resources, innovation, investment, institutional, etc.) requires a plan consistent with each level of the transport industry strategy initiation hierarchy. Structural specification of the system of strategic documents in the transport sector showed that transport strategies correspond to the strategic plan for the development of the industry as a model, when there are several development scenarios with a different set of starting parameters and consequences, but the practical value of calculations is questionable.

It is important to note that a general drawback of strategic documents for the development of the transport industry is the lack of specification of the phased implementation of goals and objectives, the lack of an analytical base, strategic analysis of the industry, and leading development initiators. Transport strategies do not describe the strategy: the basic strategy and the portfolio of strategies. We propose a format for a balanced development strategy and a portfolio of development strategies for the RTI whose practical fulfillment and feasibility should be ensured through a strategic plan. In our opinion, the strategic plan of the regional transport industry should be composed of strategic plans of structural and functional subsystems of the transport industry (modes of transport, transport enterprises) and targeted comprehensive programs for the development of system-forming elements of its potential (personnel, resource, innovation, investment, institutional and etc.).

2. Problem Statement

2.1. Analysis of methodological approaches to the problem of planning the development of the transport industry

Analysis of methodological approaches to the planning of transport industry and its structural and functional subsystems development revealed a lack of theoretical elaboration, methodological and instrumental support for the preparation of a strategic plan aimed at the development of regional and industrial systems. Maksimenko and Padalka (as cited in Chisinau, 2011; Karlof, 2011; Klochko, n.d.) propose to use the following optimal structure of a strategic plan for transport enterprises (Figure 01).

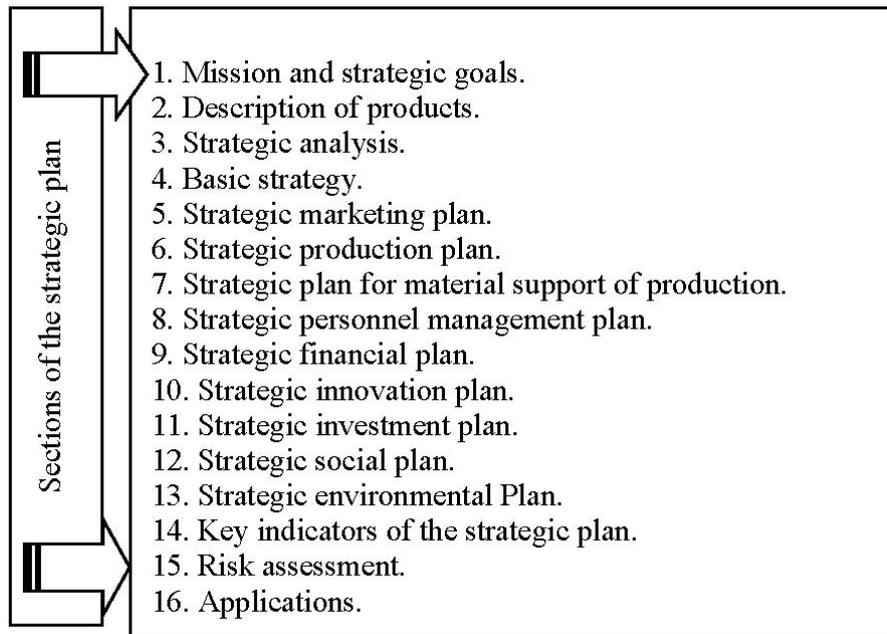


Figure 1. The structure of the comprehensive strategic plan

3. Research Questions

The structure of the strategic plan presupposes the comprehensive development and improvement of the economy of enterprises, includes directions for the implementation of identified reserves (Colenso, 2012; Konov, 2008; Kormanovskaya, 2011).

4. Purpose of the Study

Ganshina has developed a two-tier system of strategic plans:

The 1st level is a strategic development plan for a region (development of passenger transport in the region / municipality);

The 2nd level is a strategic plan for an enterprise (regional / municipal bus, trolleybus, tram, car parks and metro; private enterprises).

5. Research Methods

According to the author, the structure of the plan includes the following sections (Figure 02). The content of the sections of the strategic plan of the enterprise GPT enterprise by the author. In (Korchagina, 2010; Kosov, 2012; Kotikov, 2000; Kotilko, 2016), the plan is analyzed on the example of a bus fleet.

6. Findings

To preserve continuity and methodological unity, we propose to combine the structure of the strategic plan of the transport organization (Kotilko, 2016) and features of regional strategizing (Kraev, 2013; Kretinin, 2017; Kuznetsov, 2012). The consolidated strategic development plan should include the following sections:

1. The target picture of development and the balance of target interests.
2. Strategic analysis of development trends.
3. Identification of the degree of balance and priority problems of development.
4. Basic strategy.
5. Strategic plans for structural and functional subsystems of the transport complex (modes of transport, transport enterprises).
6. Development programs for the backbone elements of the RTI potential (institutional, production, personnel, resource, financial, innovation, investment, social, environmental).
7. Interregional and intraregional sectoral interaction.
8. Long-term financing plan, indicating which financing option can be rationally used to invest funds in projects and target programs.
9. Main indicators of the strategic plan
10. Indicators of development as guidelines for achieving a balance of target interests. Strategic development maps.
11. Risk management.
12. Applications.

The structure of the strategic plan for the development of urban passenger transport

Section 1. "General characteristics, mission and strategic goals of the enterprise" includes the name of the enterprise, its organizational and legal forms, the authorized capital, the founders and distribution of capital; legal and postal address; brief economic, geographical and historical information; main activities; mission; strategic goals;

Section 2. "Characteristics of products, services" includes a description of the urban passenger transportation by type of transportation and routes, cost, quality level and compliance with the standards; assessment of the competitiveness of products; differences between the transportation of passengers by the enterprise from the similar ones, advantages environmental friendliness compared to taxis and personal transport, adherence to the schedule, etc.);

Section 3. "Strategic analysis of the internal and external environment" includes an analysis of the personnel (number, structure, dynamics); the structure of assets (fixed and circulating); financial and economic indicators and financial condition, applied technologies. In the external environment, the policy of the city authorities, as well as the behavior of competitors, is analyzed, in addition, attention should also be paid to suppliers and the study of changes in the needs of the population in the services of GTP;

Section 4. "Basic strategy" assumes, based on the results of strategic analysis, the choice of a strategy to achieve the goals of enterprise development and increase the competitiveness of its products (possible strategies: cost leadership, creation of services with more attractive qualities for the consumer, integration with other enterprises, diversification);

Section 5. "Marketing Strategy" includes the definition of the concept of strategic marketing; market analysis and directions for improving transportation services, creating new products and improving their quality; determination of a pricing strategy coordinated with local authorities;

Section 6. "Strategic transportation plan" includes the volume of traffic in total, by type and route (total revenue, volume of traffic in physical terms); production program and material support plan;

Section 7. "Strategic changes in the organization" involves the identification of necessary changes in the following elements of the internal environment of the organization: organizational structure; organizational culture; management and production personnel (the need for personnel by profession, qualification requirements, forms of attraction to work, work regime, etc.); organization, motivation and remuneration; personnel policy. It also reflects the necessary changes in technology and production techniques, the introduction of progressive technology, mechanization and automation of production;

Section 8. "Strategic financial plan" includes planning the cost of transportation; income from transportation and other activities; the profit of the enterprise; the profitability of the enterprise; balance of income and expenses; financial budgeting; tax planning;

Section 9. "Strategic innovation and investment plan" includes a feasibility study of innovative projects, their approval; increase in production capacity; commissioning of production facilities through the expansion of existing and construction of new facilities; commissioning of production and non-production assets (including objects of nature protection); the amount of required investments; feasibility study and approval of the investment plan, risk assessment;

Section 10. "Key indicators of the strategic plan" includes benchmarks for achieving strategic goals, obtained as a result of summarizing the indicators of all sections of the strategic plan.

Figure 2. The structure and content of the strategic plan

Thus, the combined strategic development plan is a set of strategic plans for structural and functional units, targeted programs aimed at changes, and projects aimed building the potential of the transport industry and the region as a whole. Balance and realism of the RTI development strategy can be achieved through the creation of end-to-end and balanced key indicators that allow for monitoring the strategy implementation process.

In our opinion, the balanced scorecard (BSC) is an effective tool that translates vision and strategies into a set of interrelated balanced scorecards that assess the critical factors of the current and future development. The balanced scorecard makes it possible to assess these factors and opens up new opportunities for implementing the development strategy. The development of the Balanced Scorecard concept dates back to 1990, when the Norlan Norton Institute, the research center of KPMG Peat Marwick, began to study opportunities and tools to measure and improve the management performance (Figure 03).

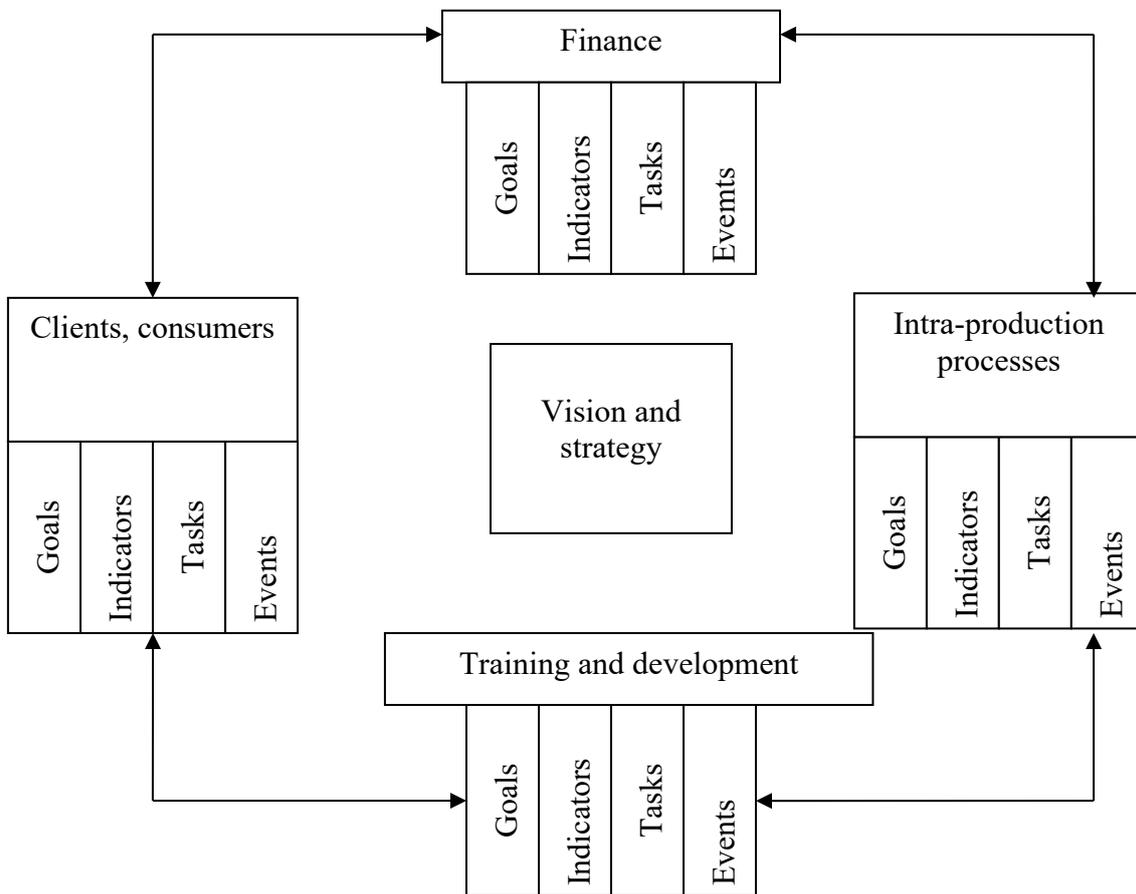


Figure 3. Balanced Caplan' / Norton's scorecard

The main idea of the approach is to analyze goals and performance of the organization as a balance between financial aspects, customer requirements, business processes and employee development. The balanced scorecard identifies four strategic directions and examines them through a set of indicators (Kurenkov, 2009; Kuzmin, 2018; Kuzmin & Gubenko, 1994).

1) financial prospects:

- long-term financial goals;
 - financial success;
- 2) consumer prospects reflect strategic goals. The central indicators are customer satisfaction and “usefulness” of the product for consumers;
- 3) prospects for internal business processes:
- goals for those processes that are most important for the fulfillment of consumer requests;
 - the goals necessary to support technological processes;
- 4) prospects for the development and training of employees:
- potential of employees;
 - employee motivation;
 - development of competencies.

The balanced system of indicators, as a tool for the strategic development of transport, is focused on the goals, includes blocks of indicators that assess guidelines for the future development of the RTI from general prospects to specific competitive strategies for each mode of transport. Thus, the balanced scorecard is more than a set of performance management criteria. It connects RTI strategies with the possibilities of implementation in order to achieve the effect of constant development of transport. The BSC developed for the strategic management of an enterprise is currently expanding its scope to the strategic management of an industry, region, or country. In the Russian management practice, the BSC has been already applied at various hierarchical levels: in corporations, industries, and regions (Kuskov, 2014). The distribution of Russian companies using the BSC by industry is shown in Figure 04.

Consumer goods manufacturers have shown the greatest interest in BSCs. The share of transport companies is 2 % of the total number that have implemented the BSC.

In practice, various forms of BSCs are used to transform a strategy into a set of activities (events) (Kushnareva, 2016):

- 1) setting central strategic goals ("main goal" or "vision");
- 2) specifying main goals through a number of subgoals, which consist of:
 - strategic guidelines (strategic paths according to Frigurd / Schmidt, strategic development topics – according to Caplan / Norton, or strategic factors of success – according to Horvath);
 - predictive scenarios which describe those potentials (opportunities, abilities) that enterprises mobilize to achieve the main goals, for example, by developing the following areas: consumers (clients); in-house business processes, personnel (training and development, innovation); finance (and controlling); partners / competitors (suppliers, cooperation partners (concerns, local communities, etc.);
- 3) indicators for quantifying the results (strategic paths, prospects);
- 4) a set of events (activities) aimed to achieve sub-goals;
- 5) indicators for a set of events;
- 6) practical implementation of the strategy (projects, action programs);
- 7) linking indicators to the reporting system.

In our opinion, the differences in the practical use of the BSC can be reduced to the three criteria:

- the way to combine the BSC with the company’s strategy:

- the way to involve people in strategic development;
- the way to include the BSC in business reports.

The distribution of Russian companies using the BSC by industries is shown in Figure 04.

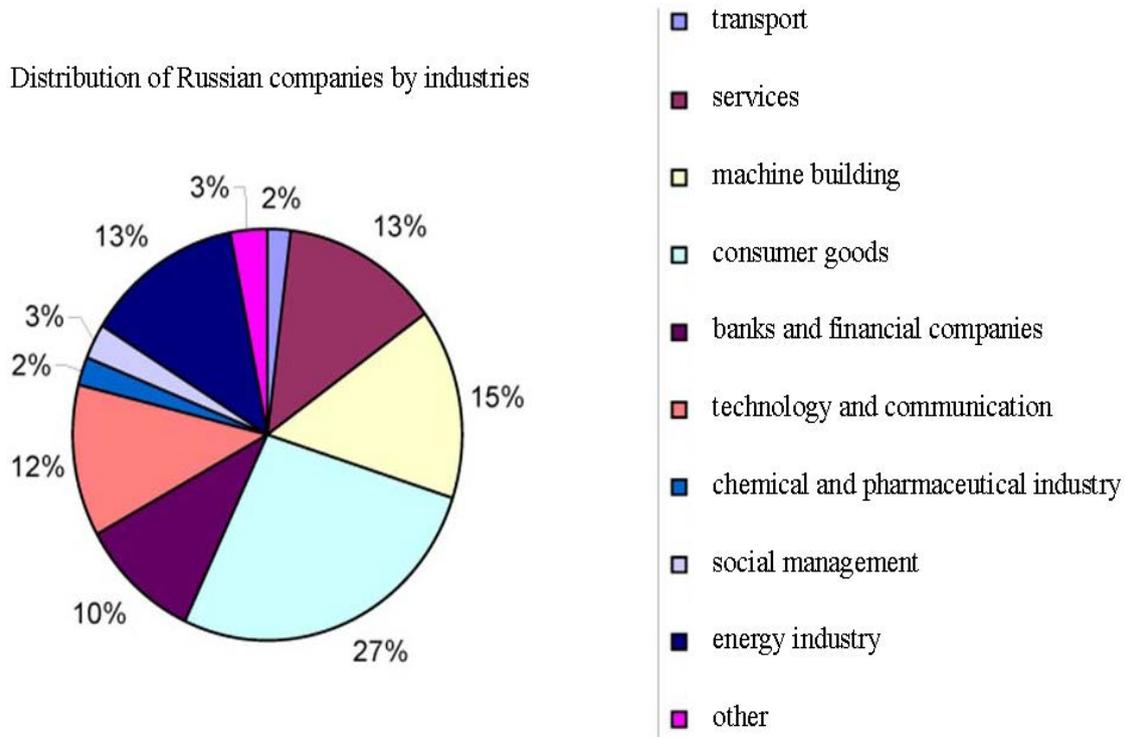


Figure 4. Distribution of Russian companies using the BSC by industries

Caplan and Norton incorporated their balanced scorecard into the hierarchical enterprise management system, presenting it in the form of a pyramid (Figure 05) (Lapygina, 2015).

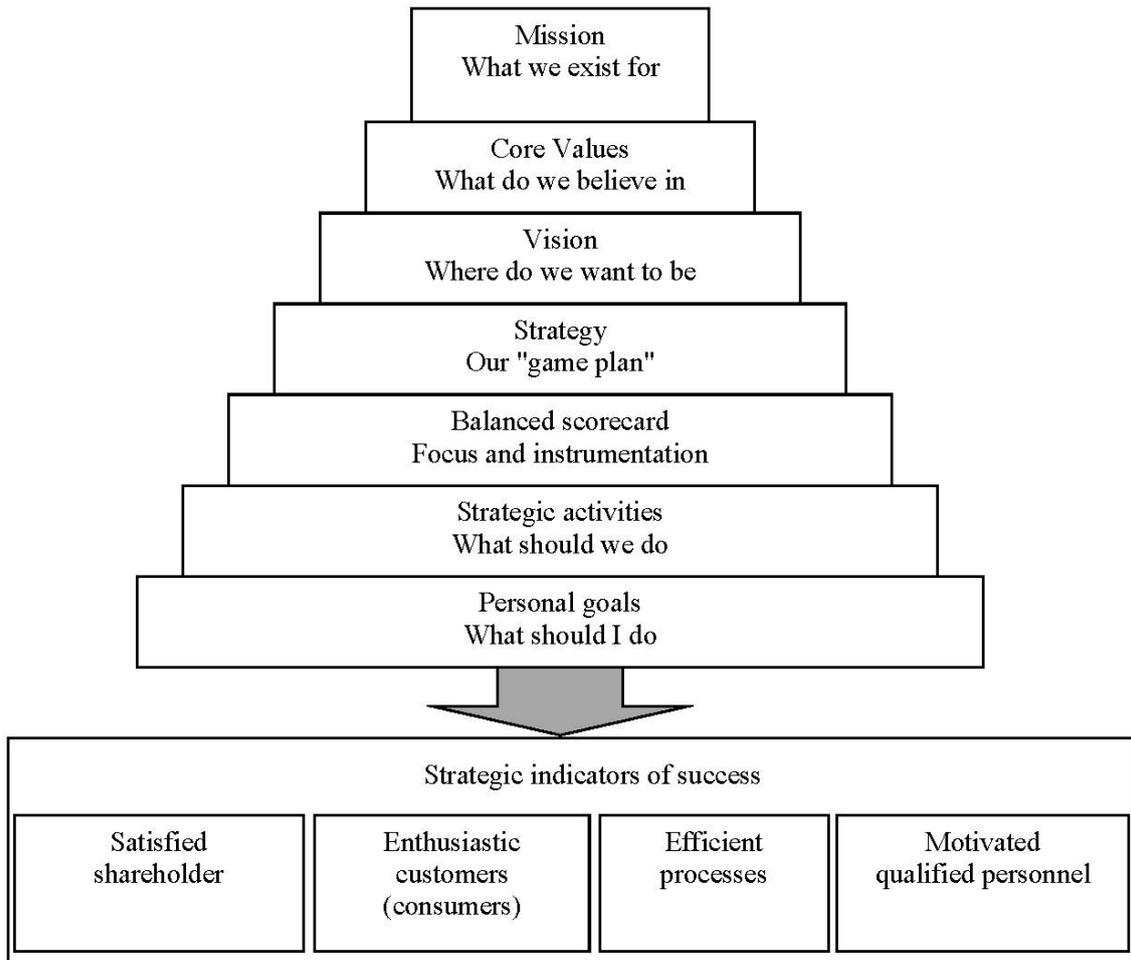


Figure 5. The Caplan / Norton Pyramid: Translating Strategy into Desired Outcomes

According to Caplan and Norton, the strategic management process consists of two stages. The strategy should be developed based on the results of strategic analysis. The purpose of the analysis is to assess trends, identify opportunities and risks in the development, and accumulate corporate knowledge. This stage completes the definition of an individual strategy.

At this stage, the existing system of strategic planning can be used. The proposed approach using the BSC does not impose special requirements – neither to the methods used by the company, nor to the content of the groups of indicators. In this regard, it is recommended to select indicators taking into account the balance requirement.

At the second stage, the development strategy is being implemented. The BSC methodology provides this opportunity through the planning and control system of the indicators set at the first stage.

At the first stage, the strategy is depicted as a "strategic map" (Figure 06).

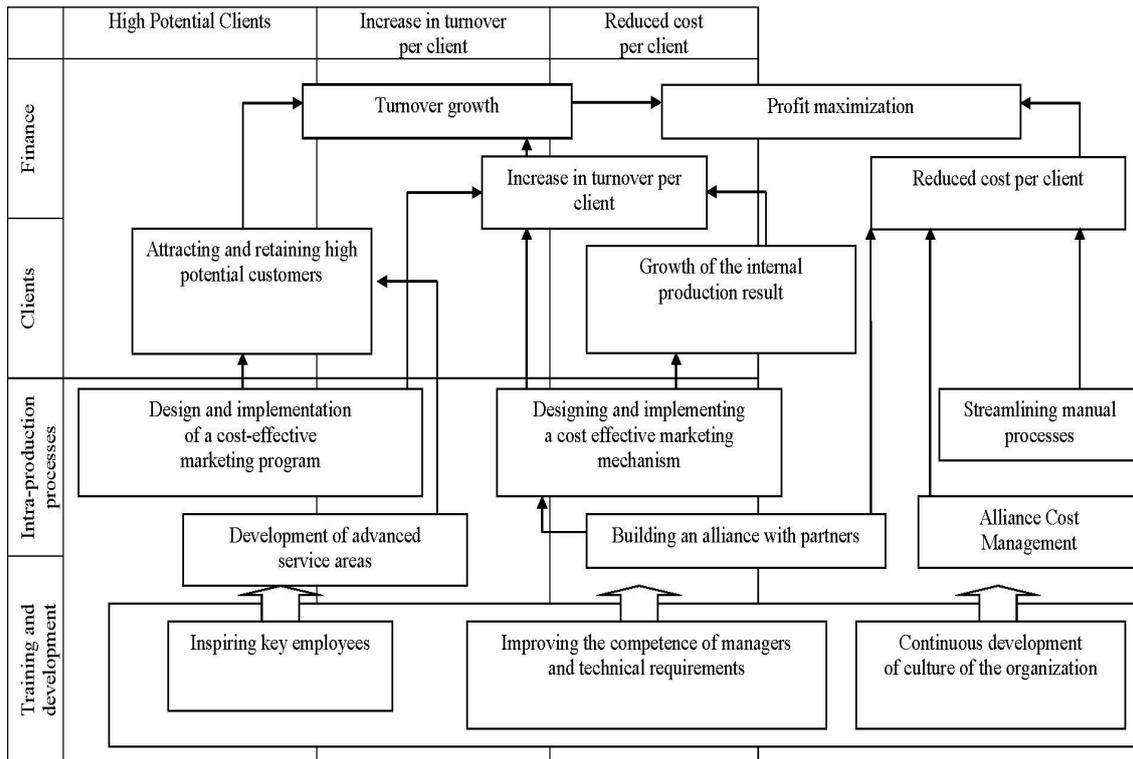


Figure 6. Caplan / Norton Strategic Map

The “grid” is a graphical diagram that describes strategic topics and four perspectives. Other goals which are consistent with the development through a chain called "cause-effect" are described (Lapygina, 2015). The goals from the strategic map are transformed to the level of "perspective" of the BSC and supported by key performance indicators (KPI). For the lower level, a system of weights is determined that allows the weighted average to calculate the CRC of higher-level goals. The KPI tree is created. Analysis of the target values of indicators allows you to assess the degree of achievement of goals and determine measures to respond to deviations. At the third stage, they discuss projects (programs of actions for the activities of the BSC), which are built into the hierarchical structure of prospects (Figure 07).

	Goals	Indicators	Tasks	Activities	
Finance	Turnover				Project Including Payback period: Resources Expected Benefit: Goal
	Profit maximization				
	Cost				
	...				
Clients	Sale				Project Including Payback period: Resources Expected Benefit: Goal
	Additional offers to clients				
	Incontinency				
	...				
Intra-production processes	Reliability				Project Including Payback period: Resources Expected Benefit: Goal
	Alliances				
	Marketing				
	...				
Trainign and development	Key personnel				Project Including Payback period: Resources Expected Benefit: Goal
	Continuity				
	Culture				
	...				

Figure 7. Embedding projects in the BSC according to Caplan / Norton

7. Conclusion

The advantage of the BSC method is that companies which have implemented a strategically oriented management system starting from the lowest levels have a “frame of reference” that helps to determine behavior in accordance with the strategy at all levels.

All resources, enterprises and employees of the regional systems are focused on the implementation of strategic goals through planning, motivation and control systems, related to a set of balanced indicators. It is a mechanism for communicating strategic goals with the help of the BSC to each enterprise, department and employee, and monitoring their achievements (Lapygina, 2015).

References

- Chisinau, R. D. (2011). *Activities of international organizations to ensure humanitarian security of the North Caucasus region of the Russian Federation*. Moscow.
- Colenso, M. (2012). *Kaizen strategy for successful organizational change*. Infra-M.
- Karlof, B. (2011). *Business strategy*. Economics.
- Klochko, S. N. (n.d.). Regional management of the sustainability of the economic system. *Baltic economic journal*. Kaliningrad. <http://bief.ru>

- Konov, A. A. (2008). *Problems of managing the development of the transport complex of the region: on the materials of the Stavropol Territory*. Stavropol.
- Korchagina, E. V. (2010). Balanced system of indicators as a tool for managing the development of a company: comparison of Russian and foreign experience. *Problems of modern economy*, 4(32).
- Kormanovskaya, I. R. (2011). The balanced scorecard is an effective tool for strategic and operational management of the region. *Regional economy: theory and practice*, 18(201).
- Kosov, Y. V. (2012). Genesis of the concept of sustainable development. *Ecology and education*, 1-2. <http://www.slon-party.ru/reading/>
- Kotikov, Y. G. (2000). *Fundamentals of the theory of transport systems*. SPbGASU.
- Kotilko, V. V. (2016). *Transport system of Russia and the CIS countries. International transport corridors*. Russian village.
- Kraev, V. I. (2013). *Economic assessment of investments in water transport*. SPbSPU.
- Kretinin, V. A. (2017). Theoretical aspects of sustainable development of the region and the criteria for its assessment. *Economy of the region: electronic scientific journal*, 18(part 2). <http://journal.vlsu.ru/index.php?id=479>
- Kurenkov, P. V. (2009). The concept of coordinating the work of operating companies. *Logistics today*, 6.
- Kushnareva, O. S. (2016). Economic problems of regions and industry complexes. *Problems of modern economy*, 3(23).
- Kuskov, A. S. (2014). *Management of transport services: tourism*. RosKonsult.
- Kuzmin, A.S. (2018). *International transportation*. TetraSystems.
- Kuzmin, V. V., & Gubenko, A. I. (1994). Organization of investment design in conditions of uncertainty. *Marketing*, 5, 14–23.
- Kuznetsov, A. (2012). *Methodological foundations of freight traffic management in transport systems*. MADI.
- Lapygina, Y. N. (2015). *Strategic development of the organization*. KNORUS.