Conceptually the net present value of IP can be presented as a sum of NPV indicator, calculated according to the traditional procedure and a value of administrative options included in the project. It can be presented as the following formula:

$$NPV_{exp} = NPV_{tr} + ROV,$$

where NPV_{exp} (Expanded NPV) – expanded net present value of IP; NPV_{tr} (Traditional NPV) – net present value, calculated by traditional method; ROV (Real Options Value) – real options value.

There is a large number of methods and models of real options estimation, the most part of which supposes use of a rather complicated mathematical apparatus, in particular stochastic mathematics, which makes their practical use difficult. The most practicable, from our point of view, is the binomial method and Black-Showlz model which were considered in details in [1–3]. The real options concept allows us to estimate the project possibilities quantitatively and thereby include them in the project efficiency estimation. It should be noted, that quantitative estimation plays the key role in the investment decision making.

The conceptual model suggested in this work is assigned to estimate investment priorities and assumes the analysis realization on several levels. It is proposed to study the development mechanism in the regional and industry profile by means of the multiple regression equation. It will give the opportunity to perform the regions positioning. It is recommended to analyze investment priorities on a micro level using the systematic mechanism of the real options concept. All this, from the authors' point of view must provide reasoned investment decision making and the choice of the optimal strategy of the regional infocommunication infrastructure development.

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TECHNIQUE TO ESTIMATE AND FORECAST LIFE QUALITY OF POPULATION

The article presents the expediency to apply life quality indicator of efficiency for activity of authorities and also the essence of the estimation technique developed by the author and forecasting of life quality of the population with regional features taken into account.

Keywords: life quality of population, estimation of life quality, forecasting of life quality.

Since late 80s the theory and sustainable development practice are in the centre of attention of scientists and politicians in our country and abroad. The tendency to design regional (and even municipal) sustainable development programs which began in the mid-nineties in Russia is still in trend. As a rule the goal sets of these programs have regional concretization and are directly focused on use of available preconditions to stabilize and improve the economic and social situation of the corresponding territories. The question of indicators and criteria of regional stability is in fact open.

Considering and analyzing various approaches to an estimation of stability of social and economic systems [1–3], the author comes to the conclusion that all the offered techniques focus attention on the process and development indicators, but do not answer the question "what for?". After all, the given estimation is necessary not only to compare the level of social and economic development of the separate countries and regions and to drawing up their ratings. Today high quality of life of the population should become the overall objective of sustainable development. The importance of life quality problem is increasing in Russia because the human resource in the conditions of progressive ageing and depopulation becomes the most scarce resource. Last version of the long-term demographic forecast of the United Nations shows that in the long term the population of Russia will be reduced, the middle age group will go up and the able-bodied population share will go down [4].

Thus, in the conditions of depopulation and ageing the problem of life quality maintenance is particularly urgent. Achieving and maintaining high quality of life will provide improvement of health and increase of life span of the population, rising of educational level, birth rate growth etc., and all these in their turn will contribute to

improvement of manpower quality which is the necessary factor for sustainable development of both separate regional social and economic systems and the country in general.

The reference to problems of life quality estimation is necessary to research economic possibilities of the countries, and also for the analysis of development prospects of the human capital. This estimation is extremely important to define the development level of social sphere as well as to reveal potential possibilities of the country, region. Therefore what is urgent here is formation of a new management paradigm that is quality management of life. In this connection, it is expedient as the main criterion of a sustainable development to use such integrated indicator as life quality of the population as the given indicator

– allows to formulate the purpose of steady regional development accurately;

– is the sensitive indicator of economic, financial, social, ecological, etc. changes in the country and the region;

– gives the chance to strengthen a social orientation of the regional policy and regional development, puts on the first place the social purposes of a society instead of material;

– allows to estimate efficiency of state and municipal management bodies;

– transforms economic growth into the main tool to achieve the social goals of the society.

Considering life quality as an overall objective and the basic indicator of sustainable development of regional social and economic systems, it is necessary not only to define indicators of its estimation but also to develop forecasting tools as forecasting is basis for planning and hence for improvement of life quality.

The analysis of foreign and domestic techniques to estimate life quality [5–10] has allowed to formulate the following conclusions:

– foreign and domestic scientists conduct active work in sphere of designing methods to estimate quality of life;

– every year the world community pays more and more attention to life quality of the population; achievement and quality maintenance of life is the purpose of all developed countries of the world;

– existing techniques considerably differ by quantity and structure of indicators (the quantity of indicators varies from three to several tens, and their structure includes indicators of economic, social and physiological components of quality of a life);

– the majority of the considered techniques is estimated only by objective indicators of life quality and do not consider the subjective ones;

– all the considered techniques allow to estimate only stand-alone qualities of life of the population and cannot apply for universality.

Proceeding from the above-stated, it is possible to say that for today creation of the unified technique to estimate life quality with reference to the Russian regions owing to different natural and climatic, cultural, historical, social and economic conditions of their development is not obviously possible, therefore it is expedient to estimate life quality by the indicators reflecting the most essential factors of ability to live in the given region.

The characteristic economic and geographical position; natural and environmental conditions; natural resource potential; demographic potential and population structure; structures and economy specializations; financial security of Krasnoyarsk region, and also typology of the factors produce positive and negative impact on life quality of the population (tab. 1). All these contributed to the presented allocation.

To estimate life quality it is necessary to choose indicators which to the greatest extend reflect negative factors of the ability to survive. It will help to estimate degree of negative influence, its dynamics that, in turn, will allow authorities to allocate priority directions of the social and economic policy in region.

From tab. 1 it is obvious that the greatest negative influence on life quality of the population is given to Krasnoyarsk from severe environmental conditions, the big extent from the north on the south and from the West on the east, the high industrialization, close to monoprofile character of development of economy. Thus, it is necessary to choose from all the variety of indicators of life quality of the population the ones that most objectively reflect the revealed negative factors.

Taking into account regional features and the requirements, shown by social and economic indicators [11], the author suggests estimating life quality of the population of Krasnoyarsk region in four basic components: population health, availability of social services, standards of living, ecological conditions, with social aspect of the economic indicators presented in tab. 2.

Indicators of life quality presented in tab. 2 are applied to calculation of the general indicators for each component and a complex indicator by methods of the average geometrical and the average arithmetic weighed accordingly.

The estimation of life quality is only one of the management stages, being the basis for standard (target) forecasting. For effective forecasting of life quality of the population the major question is the choice of forecasting method. The optimum method should meet following requirements:

– to provide functional completeness, reliability and accuracy of the forecast;

– to reduce expenses of time and means of forecasting;

– to consider features of the forecasting object, the main feature of life quality as forecasting object depends on a great number of factors (tab. 1).

The analysis of forecasting methods [12–16] allows to draw a conclusion that substantially method DEA (in English the name of this method sounds as Data Envelopment Analysis) meets these requirements.

Method DEA is based on application of methods of linear programming to create a non-parametric linear surface on the basis of certain data. This method has arisen as generalisation of simple factors to analyse activity in the multidimensional case, i. e. activity of

complex object is described by a set of entrance parametres (x_1, …, x_m) and a set of target parametres (y_1, …, y_r). For the sake of correctness and pithiness of such statements the set of similar complex objects is considered. Then mathematically such approach will be reduced to the decision of the big family of optimising problems. The founders of the given approach are American scientists A. Charnes and V. Cooper.

Table 1

The factors influencing life quality of the population of Krasnoyarsk region

Economic and geographical position	
Positive influence	The region is located on crossing of the major transport ways that considerably simplifies possibilities of moving not only in the country, but also beyond its boundaries
Negative influence	The big extent from the north to the south and from the West to the east creates a territorial problem of availability for medical, educational and other services, especially for the population of peripheral areas of the region
Natural and environmental conditions	
Positive influence	In the south of the region there is warm summer and moderately severe winter with little snow falls. Dry pure air, an abundance of sunny days in the summer, healing waters of sources and numerous lakes create favorable conditions for building of resorts, sanatoria and bases of rest
Negative influence	The considerable part of territory of the region concerns regions of the Far North, adverse to reside owing to extreme natural and environmental conditions; negative influence on health of people, lack of possibilities for alternative employment and the all-the-year-round transport land message, essential branch ruptures in payment
Resource and raw potential	
Positive influence	Rich in resource, the raw potential is capable to provide throughout the foreseeable future the considerate incomes in the regional budget as well as financing of the expenses directed on improvement of life quality of the population
Demographic potential and population structure	
Positive influence	Age structure of the population is younger than in the average all over the country
Negative influence	The steady tendency of reduction of the population; life expectancy is below the all-Russian indicator; high death rate from the external reasons (a trauma, suicide, alcoholic poisonings); illnesses of blood circulation system; new growths; excess of birth rate of the death one
Structure and economy specialization	
Positive influence	Export branches of the economy in the region provides higher incomes to the population; the modern level of the economy development, realization of investment projects provide high employment of economically active population
Negative influence	The regional economy is close to monoprofile (nonferrous metallurgy defines the industrial profile of the region), it leads to demand for traditionally “man’s” specialities, complicating employment of women; high branch and gender differences in payment which is characteristic for the industrial, export-focused regions; concentration of the most productive parts in two cities (Norilsk and Krasnoyarsk); environmental problems, characteristic for the majority of industrial regions; depression of the economy in the northern territories

Table 2

Components and social and economic indexes of life quality

Components of life quality of the population	The social and economic indexes characterising components of life quality
Population health	Pre-supposed life expectancy; Death rate from the unnatural reasons; Death rate from illnesses of blood circulation system; Death rate from new growths
Availability of social services	Coverage by preschool centres; Coverage by educational institutions; Coverage by establishments of primary, secondary and higher vocational training; Coverage by public health services establishments; Coverage by establishments cultural type, libraries, museums, theatres etc.
Standards of living	Level of incomes of the population; Security habitation; Branch differences in payment; Gender differences in payment
Ecological conditions	A condition of water resources; A condition of atmospheric air; A soil condition

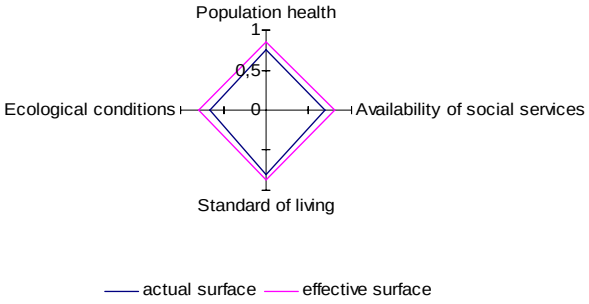
Among the basic advantages of DEA method there is giving the grounds to apply it to forecasting life quality, it is also possible to name the following:

– possibility to estimate efficiency and forecast taking into account a considerable quantity of inputs and exits that allows to avoid necessity to calculate the uniform result indicator or the indicator of resources expenditure;

– possibility to define each forecasting object of optimum volume of inputs or exits, which should reach peak of efficiency;

– no need in the subjective task of the functional form of an effective surface, and also the form of distribution at random error.

In general the main idea of DEA method with four components of life quality (inputs) is presented in figure.



Comparison of actual and effective surfaces

The actual surface is under construction on the basis of indicators of life quality of the investigated region, and the effective surface based on the information of regions, advanced on these indicators. The comparative analysis of actual and effective surfaces gives the chance to carry out target (standard) forecasting, i. e. to define a desirable degree of life quality of the population in the future; ways and terms of achievement of optimum indicators of life quality defined as the purpose.

Schematically offered technique to estimate and forecast life quality of the population taking into account regional features is presented in tab. 3.

The important advantage of the offered technique to estimate and forecast life quality is that applied indicators correspond to the requirement of information availability and enter the nomenclature of the official statistics (or are calculated on values of the last); besides the offered technique:

– considers important regional features; for an estimation of life quality of the population of Krasnoyarsk region the indicators reflect factors producing the most essential impact on population ability to live are selected;

– characterized by simplicity of application and speed of reception of results;

– allows to trace dynamics of life quality of the population of the region, to carry out inter-regional and intraregional comparisons to make ranging of intraregional administrative and territorial units on life quality;

– considers value judgment of the importance of separate components of life quality for the population;

– is flexible and dynamical as at change of the factors influencing life quality of the population in the region, gives a chance to change or add the list of applied individual indicators.

Table 3

Evaluation stages and forecasting of life quality of the population

Sources Information	Stage	Applied methods
The official statistical reporting of the analyzed region	1. Revealing of the factors making the greatest negative impact on life quality of the population	Analytical methods
	2. Definition of components and the indicators reflecting revealed negative factors	
	3. Calculation of the generalised indicators on each component of life quality	Average geometrical
Results of a stage 3, results of expert interrogation	4. Calculation of complex indicator of life quality	Average the arithmetic weighed; a ranging method (for reception of factors of weightiness)
Results of stages 3, 4	5. Construction of an actual surface	Method DEA
The official statistical reporting of regions, advanced on analyzed indicators of life quality	6. Construction of an effective surface	
Results of stages 5, 6	7. The comparative analysis of actual and effective surfaces	
Results of stage 7	8. Definition of the desirable degree of life quality of the population in future; ways and terms to achieve the optimum indicators of life quality defined as the purpose	Analysis and synthesis methods

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THE PERSONAL SERVICE MARKET: PECULIARITIES OF THE REGIONAL DEVELOPMENT (BY EXAMPLE OF THE KRASNOYARSK REGION MARKET)

The dynamics of personal services market development in the Krasnoyarsk Region is notable for lagging behind those of all-Russian ones. Besides, there is a lower growth rate of the personal services volume in 2008. Having sufficiently large potential, the market of personal services can be attractive to average and small-scale businesses. The share of personal services in total amount of paid services testifies to it in 2002. The decision of business and state regulation in the branch of personal services should be based on applied scientific research of the market taking into account current trends, in particular the market fragmentation.

Keywords: personal services, the personal services market, fragmentation of the personal services market.

The development level of service can be considered as index of social and economic progress of regions, as well as the most important condition for population's life quality assurance. The basic task of the domestic service for people is comfortable living condition made at the expense of the household rationalization and therefore time save dup for another purposes, e. g. rest, self-education, satisfaction of cultural needs.

The domestic service for people represents the traditional and most volumetric sector of paid services sphere for the population of Russian Federation, which percentage is approximate equal to 10 % based on statistics [1]. The domestic service is sphere for the active work of small businesses. The territorial task program "The development of small and average business subjects in Krasnoyarsk Region" in 2008–2010 contributes to the domestic service organizations' development and their problems solving [2]. This approved program is rather urgent decision in our opinion because the analysis of domestic service market development in Krasnoyarsk Region shows some problems.

Statistical analysis of the personal services market development dynamics has shown the rise of personal services volume in the country in general and in Krasnoyarsk Region in particular. The personal services volume has increased by 3.2 times (from 126.8 to 406.1 billion rbl.) in Russia over a period of 2002–2008 and just