UDC 711.4

Korostelev Yu.S.

Value assessment in integrated territorial development projects

The article discusses the important problem of distinguishing and taking into account the concepts of cost and value in the process of implementing integrated territorial development (ITD) projects. The traditional approach to evaluating such projects often focuses solely on the economic cost, which can lead to ignoring other equally significant aspects that affect the quality of the urban environment. This paper substantiates the need to expand the assessment, including the multifaceted aspects of value, encompassing social, environmental, cultural and aesthetic factors. Special attention is paid to the role of the state-owned ITD operator as a potential representative of the long-term interests and values of future generations. New approaches to the assessment and integration of various aspects of value using qualimetric analysis and generative neural networks are proposed. These methods can be implemented in decision-making processes, which will take into account the interests of all stakeholders and create a more sustainable and comfortable urban environment. Thus, this study highlights the importance of an integrated approach to the evaluation of ITD projects.

Keywords: *integrated development of territories, cost, value, qualimetry, neural networks, stakeholders, sustainable development, state ITD operator*

Korostelev Yuri Sergeevich,
postgraduate student;
State University of Land Use Planning; 15 Kazakova st., Moscow, 105064, Russian Federation;
ORCID: 0009-0000-2846-1886;
korostelevjs@mail.ru

Integrated Territorial Development (ITD) projects are a powerful tool for transforming urban space, aimed at creating a comfortable, sustainable and economically prosperous environment. ITD has become the main tool of urban planning due to its ability to solve complex problems of territorial development, attract investments and improve the quality of life of the population.

However, the traditional approach to the implementation of ITD often focuses primarily on the economic component, namely on the cost and capitalization of projects, understood as the cost of their implementation. Such an approach, focused on measurable financial indicators, can lead to overlooking other equally important aspects that determine the quality of the urban environment and the well-being of its inhabitants.

In the monograph [1], all existing methods for evaluating the effectiveness of ITD projects (the Moscow methodology, the methodology of Institute of City Economics, the ITD standard, etc.) are analyzed and an unambiguous conclusion is made that all of them are based solely on the concept of the most efficient use (MEU) and are focused on increasing the cost and profit from projects for individual participants. In the same work, a different approach to the implementation of ITD projects is proposed, which is based on the concept of rational and most efficient use (RMEU) [2]. This concept is typical for the theory and practice of land management, but is not applied or very rarely used by developers and urban planners. The concept is based on the concept of the value of the territory, not its value. Unlike the cost, the value of the territory must take into account such important aspects as social factors, environmental factors, cultural factors, aesthetic factors, etc. The lack of explicit consideration of these factors may lead to the fact that the projects of ITD, recognized as effective from the point of view of current methods, will have negative consequences for the social, ecological and cultural value of the territory.

The problem of valuing was first fundamentally investigated in the famous work of Sarah Seis and her colleagues from the Kingston University School "Real estate appraisal: from value to worth" [3], which states that when evaluating real estate, worth in the broadest sense of the word should be taken into account.

In [1], this idea was continued in relation to urbanized territories and their development projects, which should not be limited to financial indicators and should include a whole range of non-monetary aspects that are significant for various stakeholders (stakeholders) and for future generations.

Cost in the economic sense is often reduced to the market value of real estate for typical market players[1] [4–8]. Value, in contrast to value, is a broader and more multifaceted concept [3, 4]. The value is subjective and can vary significantly for different stakeholders. In addition to residents, developers, municipal authorities, the business community, and future generations, they may also include, for example, tourists, investors, public organizations, environmental activists, representatives of cultural communities, and other stakeholders and groups whose interests may be affected by ITD projects.

In order to ensure a truly sustainable development of territories, taking into account the interests of future generations [6], through ITD, it is necessary to shift the focus from exclusively economic value to consideration of multifaceted value. This approach requires a comprehensive analysis of all the factors affecting the value of the territory and consideration of the interests of all stakeholders.

[1] Korostelev S.P. Theory and practice of economic measurements in real estate. *LitRes*. 2023. URL: https://www.litres.ru/book/sergey-pavlovich-kor/teoriya-i-praktika-ekonomicheskih-izmereniy-v-nedvizh-68845437 / (accessed: 11/21/2023).

Combining the different values of stakeholders into a single integral indicator is a complex task that requires taking into account different points of view and using methods such as multi-criteria analysis and weighting. The difficulty lies in the fact that different groups of stakeholders may have different, sometimes contradictory, ideas about the value of the territory. For example, maximizing profits may be a priority for developers, while preserving green areas and cultural heritage sites is more important for local residents [9, 10].

In this context, a special role, as indicated in [4], can be played by the recently introduced state operator of ITD (SO ITD) into the urban planning process. Acting as a representative of the state and a guarantor of the rational use of land for future generations, the operator can ensure that long-term values are taken into account, which may not fully reflect the short-term economic interests of developers. However, in order to effectively fulfill this role, the operator must have not only the authority, but also the appropriate methodological framework and the necessary methods for assessing the value of territories. These methodologies should take into account the long-term impacts of the implementation of ITD projects, including changes in the environmental, social and economic spheres.

The analysis carried out in [1] showed that it is not possible to make a correct assessment of the value of the territory using economic measurement tools [4]. For this procedure, it is necessary to apply quantitative quality assessment methods, in particular, qualimetry methods.

Qualimetry, as a scientific discipline dealing with the quantitative assessment of quality [11–13], can serve as a methodological basis for assessing various aspects of the value of an urban area within the framework of ITD projects. Applied to urban areas, qualimetry allows:

- to translate the qualitative characteristics of the territory into quantitative indicators;
- to create a hierarchical system of quality indicators;
- to develop mathematical models for a comprehensive assessment of the territory;
- to ensure the objectivity and comparability of the evaluation results.

Qualimetry, as a science, was formed back in the 60s of the last century, its developer and active guide to the practice of measurements was Prof. G.G. Azgaldov[2]. However, the theory of qualimetry has not become widespread. First of all, because of the complexity of conducting research.

To develop a Quality Assessment Methodology (QAM) based on the methodology of Prof. G.G. Azgaldov it is necessary to create three main groups of participants:

- Organizational Group (OG). It is formed for methodological guidance of QAM development and is headed by the person developing QAM (PDM). The OG may include one or two experts on the assessed object;
- Technical Group (TG). This group is being created “to provide technical support for the creation of QAM, the execution of typewriting, drawing, computing (including machine counting) work” [12]. The TG is subordinate to the PDM or another member of the OG at his direction. Usually, an item instance consists of one or two people, sometimes three with a short development time for complex QAM;
- Expert Group (EG). It is necessary to obtain expert assessments in the quality assessment process. For a simplified quality assessment method, the appropriate number of EG is from 7 to 10 people, depending on the complexity of the facility. *“The selection of experts for the EG is made by OG by selecting specialists who know the type of object being evaluated well, followed by a personal conversation to assess their competence, confidence, objectivity, efficiency and interest”* [11–13].

All methods require the involvement of leading experts in various industries in research, taking them away from their main activities for several days or even weeks.

The general evaluation algorithm for the simplified qualimetry method [13]:

1. Definition of the nomenclature of the evaluated properties of the object and construction of a tree of properties of the object.
2. Choosing a method for determining the values of property indicators.
3. Definition of the assessment situation.
4. Determination of the basic (reference) values of the property indicators.
5. Determination of coefficients of relative importance of properties.
6. Determination of reference and rejection values of indicators.
7. Determining the values of property indicators.
8. Determination of the values of quality indicators in general.

The algorithm described above turned out to be very costly and time-consuming, as it was formed without taking into account modern technologies. The emergence of artificial intelligence (AI) can significantly reduce the complexity of quantifying quality [14], especially in the context of the rapid growth of new models of generative neural networks (GNN). They have now reached such a level that they can easily replace experienced experts. Such GNNs as DeepSeek and Gemini 2.0 Flash have achieved a particularly high level of training and expertise.

The main problem of the researcher when working with the GNN is to compile the correct assignment for the GNN, which is called a promt. The correct promt can be created interactively by testing on already known examples.

A bot named “Qualimetry” was created to test the qualimetric software in the environment of the GNN Monica integrator using GNN DeepSeek V3. All known, published works on qualimetry were uploaded to the bot's knowledge base, first of all, the works of G.G. Azgaldov, the founder of the scientific discipline. GNN learned from these materials, and then the first software was written to perform the procedures for compiling property trees and performing all the necessary calculations to determine the weights of simple properties into which the problem under study is decomposed (simple properties are called properties that can be measured analytically or expertly). These weights for simple properties are defined in the methodology as a tiered normalized coefficient (TNC).

To test the possibility of using of GNN in the practice of qualimetric value research and to debug promt in the Qualimetry bot, the author conducted an experiment with reproducing an example from the books of Prof. Azgaldov G.G. [2, 7] on the creation of a qualimetric methodology for determining the winners of the National Award in the field of franchising “Golden Brand” in the nomination “Golden Franchise” (as of 2007). In the example, 10 experts were involved in solving the qualimetric problem (p. 125 [12]). Due to the limited time required to complete the work, an analysis of the experts' qualifications was not carried out, which further affected the results of the study. The complexity of the work was estimated by

[2] URL: http://www.labrate.ru/

Table 1. Tree of properties from an example of the efficiency of enterprises-nominees in the field of franchising from the book [12]

<table>
<tr><th>Tier 0</th><th>Tier 1</th><th>Tier 2</th><th>Tier 3</th><th>Tier 4</th><th>Tier 5</th></tr>
<tr><td rowspan="11">Franchise efficiency</td><td rowspan="6">18. Results obtained — 1.1.</td><td rowspan="5">16. Franchise organization —1.1.1.</td><td rowspan="3">13. Generalized franchise characteristics — 1.1.1.1.</td><td rowspan="2">12. Prevalence by number of franchises — 1.1.1.1.1.</td><td>1. Number of franchisees with multiple franchises — 1.1.1.1.1.1.</td></tr>
<tr><td>2. Total number of franchisees — 1.1.1.1.1.2.</td></tr>
<tr><td colspan="2">3. Prevalence by region — 1.1.1.1.2.</td></tr>
<tr><td rowspan="2">14. Success of franchising — 1.1.1.2.</td><td colspan="2">4. Number of cancelled franchises — 1.1.1.2.1.</td></tr>
<tr><td colspan="2">5. The number of terminated franchises in % — 1.1.1.2.2.</td></tr>
<tr><td colspan="4">6. Total sales volume — 1.1.2.</td></tr>
<tr><td rowspan="5">19. Generalized cost characteristics — 1.2.</td><td rowspan="4">17. Franchise costs — 1.2.1.</td><td colspan="3">7. Franchisor's expenses for franchise advertising — 1.2.1.1.</td></tr>
<tr><td rowspan="2">15. Franchisor's expenses for franchise advertising — 1.2.1.2.</td><td colspan="2">8. Costs related to franchisee assistance — 1.2.1.2.1.</td></tr>
<tr><td colspan="2">9. Waste costs upon termination of the franchise — 1.2.1.2.2.</td></tr>
<tr><td colspan="3">10. Cost of increasing goodwill in franchise advertising — 1.2.1.3.</td></tr>
<tr><td colspan="4">11. Share of franchise costs in total advertising costs — 1.2.2.</td></tr>
</table>

the authors as follows (p. 128 [12]): "*With six calculations (which can also act as experts) and with all the initial data, this complexity will amount to approximately 9 people-day (not counting the PDM time cost)*".

To test the possibility of using GNN in practice, the following property tree was created in this study based on 19 criteria (Table 1), which is "based on information provided to PDM by the organizers of the competition" (p. 128 [12]).

The above numbering of properties by tiers in the book, which requires renumbering the entire tree when changing properties on one tier, turned out to be not applicable to the bot, which required changing the encoding of each property when the bot was running. In Table 2, the new numbering is shown at the end of each property.

Next, the bot was trained interactively. If the bot made a mistake, it was asked to write a promt so that these identified errors would not be repeated, and this part of the promt would be inserted into the main promt. Thus, it was possible to train the bot and teach it to perform correct calculations using the qualimetry methodology. As a result, the promt was 16,380 characters (including symbols).

After receiving satisfactory training results, the bot was given the task to reproduce an example from the book [12]. During interactive interaction with the bot, he revealed some inconsistency between the rules for compiling such trees developed in the example of the property tree. Nevertheless, he was instructed to reproduce the example from the book in full and calculate the weights according to the rules of qualimetry, which he did. The results of comparing the output parameters of the example (TNC) and the values calculated by the bot are presented in Table 2.

From the Table 2 It can be seen that the results obtained are very close. Some discrepancy is explained by the fact that

Table 2. Comparison of the results of the qualimetric analysis of the example and the calculation of the bot

Name	Number on tree	The values of the group and tier Gi importance coefficients (an example from the book)			Values of the group and tier Gi importance coefficients (calculated by the bot)			
		Average data value экспертов	Normalized values of group q.v.	Calculated TNC by example	Encoding	Assigned weight of the GNN bot	Normalized values of group q.v.	Calculated TNC by bot
Number of franchisees with multiple franchises	1	74	0.426	0.0637	1.1.1.1.1.1	75	0.429	0.0624
Total number of franchisees	2	100	0.574	0.0858	1.1.1.1.1.2	100	0.571	0.0832
Prevalence by region	3	77	0.435	0.1153	1.1.1.1.2	80	0.444	0.1165
Number of cancelled franchises	4	51	0.456	0.0720	1.1.1.2.1	90	0.474	0.0745
The ratio of terminated franchises to the total number	5	61	0.544	0.0860	1.1.1.2.2	100	0.526	0.0828
Total franchise sales	6	47	0.324	0.2022	1.1.2.	49	0.329	0.2055
Costs related to franchisee assistance	8	100	0.778	0.0972	1.2.1.2.1	100	0.769	0.1024
Losses in case of termination of contracts	9	29	0.222	0.0278	1.2.1.2.2	30	0.231	0.0307
Franchisor's expenses for franchise advertising	7	60	0.290	0.0937	1.2.1.1	70	0.286	0.0932
Share of expenses for increasing goodwill	10	67	0.324	0.1048	1.2.1.3	75	0.306	0.0998
Share of franchise costs in advertising costs	11	16	0.138	0.0516	1.2.2.	15	0.130	0.0489
Checking the 5th tier				1.0000	–	–	–	1.0000

Table 3. Decomposition of the parent property "Success rate of franchising" in the example

Name	Number on tree	Values of group non-normalized i-th importance coefficients for different experts							Average value
		Exp. 1	Exp. 2	Exp. 3	Exp. 4	Exp. 5	Exp. 6	Exp. 7	
Number of cancelled franchises	4	10	100	10	20	20	100	100	51
Ratio of terminated franchises to the total number	5	100	10	100	100	100	10	10	61

the values of the group coefficients in the example were taken as averages according to experts, and in the calculation they were assigned by the bot. Moreover, the average data of experts in some cases contradicted the rules of qualimetry. For example, for the parent property "Success rate of franchising", the following group non-normalized coefficients were obtained (Table 3).

From the Table 3 it can be seen that in this decomposition, the experts gave the exact opposite result, which may indicate the competence of the experts. In this case, the rules of qualimetry require a second round of evaluation to coordinate the positions of experts, but this was not done, which led to a calculation error. In this regard, the bot's calculation turned out to be more correct and consistent with the rules.

Thus, it was proved that the bot can correctly, interactively, create property trees and perform the necessary calculations according to the rules of qualimetry. This conclusion allowed us to proceed to the assessment of the value of the territories, which was discussed at the beginning of the article.

For this purpose, a bot was created in another, more advanced version of GOOGLE's GNN Gemini 2.0 Flash. The created promt was transferred to the Qualimetry_GM bot and materials on the theory and practice of qualimetry and territory assessment were uploaded. The bot was given the task to build a property tree and calculate the weighting coefficients for tiers and for simple, measurable properties at the end of the calculations, provided that the three basic properties of value are equal — economic, environmental and social. The interactive mode was disabled and the bot had to independently decompose all the parent properties until simple, measurable properties were achieved and the weights of these properties were calculated.

To solve the problem, it was sufficient for the bot to decompose into 3 tiers (Table 4).

Table 4. Final decomposition of the territory's value

Tier 0	Tier 1	Tier 2	Tier 3		TNC	TNC, %
Value of the territory for ITD	Economic value (100 %)	Diversity of the local economy (100 %)	1.1.1.1	Availability of retail facilities	0.0289	2.89
			1.1.1.2	Development of the service sector	0.026	2.6
			1.1.1.3	Representation of public catering	0.0231	2.31
			1.1.1.4	Availability of small and medium-sized businesses	0.0202	2.02
		Infrastructure for business activity (90 %)	1.1.2.1	Availability of office space and coworking spaces	0.0327	3.27
			1.1.2.2	Quality of telecommunication infrastructure	0.0294	2.94
			1.1.2.3	Availability of service infrastructure for businesses	0.0261	2.61
		Transport accessibility and connectivity (80 %)	1.1.3.1	Development of the public transport network	0.0231	2.31
			1.1.3.2	Availability and quality of pedestrian infrastructure	0.0208	2.08
			1.1.3.3	Availability and quality of bicycle infrastructure	0.0184	1.84
			1.1.3.4	Accessibility of motor transport	0.0161	1.61
		Potential to create new jobs (70 %)	1.1.4.1	Availability of free space for business development	0.0256	2.56
			1.1.4.2	Attractiveness of the territory for entrepreneurs	0.023	2.3
			1.1.4.3	Meeting demand in the labor market	0.0205	2.05
	Environmental value (100 %)	Environmental condition (100 %)	1.2.1.1	Level of atmospheric air pollution	0.0289	2.89
			1.2.1.2	Water quality	0.026	2.6
			1.2.1.3	Soil pollution level	0.0231	2.31
			1.2.1.4	Noise pollution level	0.0202	2.02
		Availability and accessibility of green areas (90 %)	1.2.2.1	Area of green spaces per capita	0.0327	3.27
			1.2.2.2	Share of the territory occupied by green areas	0.0294	2.94
			1.2.2.3	Assessment of the quality and improvement of green areas	0.0261	2.61
		Biological diversity (80 %)	1.2.3.1	Species richness of flora	0.026	2.6
			1.2.3.2	Species richness of fauna	0.0289	2.89
			1.2.3.3	Presence of rare and protected species	0.0231	2.31
		Energy efficiency and sustainability (70 %)	1.2.4.1	Share of use of renewable energy sources	0.0256	2.56
			1.2.4.2	Energy efficiency of buildings and structures	0.023	2.3
			1.2.4.3	Resource efficiency	0.0205	2.05

<table>
<tr><th>Tier 0</th><th>Tier 1</th><th>Tier 2</th><th colspan="2">Tier 3</th><th>TNC</th><th>TNC, %</th></tr>
<tr><td rowspan="14">Value of the territory for ITD</td><td rowspan="14">Social value (100 %)</td><td rowspan="4">Level of social infrastructure development (100 %)</td><td>1.3.1.1</td><td>Availability of educational institutions</td><td>0.0265</td><td>2.65</td></tr>
<tr><td>1.3.1.2</td><td>Provision of healthcare facilities</td><td>0.0265</td><td>2.65</td></tr>
<tr><td>1.3.1.3</td><td>Provision of cultural and sports institutions</td><td>0.0239</td><td>2.39</td></tr>
<tr><td>1.3.1.4</td><td>Availability of social security institutions</td><td>0.0212</td><td>2.12</td></tr>
<tr><td rowspan="3">Security and law and order (90 %)</td><td>1.3.2.1</td><td>Crime rate</td><td>0.0327</td><td>3.27</td></tr>
<tr><td>1.3.2.2</td><td>Residents’ sense of security</td><td>0.0294</td><td>2.94</td></tr>
<tr><td>1.3.2.3</td><td>Effectiveness of law enforcement agencies</td><td>0.0261</td><td>2.61</td></tr>
<tr><td rowspan="3">Social cohesion and engagement (80 %)</td><td>1.3.3.1</td><td>Availability of public spaces</td><td>0.0291</td><td>2.91</td></tr>
<tr><td>1.3.3.2</td><td>Activity of local communities and organizations</td><td>0.0262</td><td>2.62</td></tr>
<tr><td>1.3.3.3</td><td>Level of participation of residents in decision-making</td><td>0.0233</td><td>2.33</td></tr>
<tr><td rowspan="4">Comfort of living (70 %)</td><td>1.3.4.1</td><td>Landscaping</td><td>0.0144</td><td>1.44</td></tr>
<tr><td>1.3.4.2</td><td>Housing affordability</td><td>0.016</td><td>1.6</td></tr>
<tr><td>1.3.4.3</td><td>Quality of housing stock</td><td>0.0144</td><td>1.44</td></tr>
<tr><td>1.3.4.4</td><td>Development of engineering infrastructure</td><td>0.0128</td><td>1.28</td></tr>
</table>

As a result of the calculation, the main parental property (MPP), the value of the territory for ITD, was decomposed into 41 simple, measurable properties with their own normalized weights (TNW).

CONCLUSION

Taking into account the multifaceted value along with the economic value is a key factor for the success and long-term sustainability of integrated territorial development projects. Qualimetry provides methodological tools for quantifying various aspects of value and integrating them into decision-making processes. The state-owned ITD operator, acting as a representative of long-term interests, can play a crucial role in ensuring a balance between cost and value, contributing to the creation of truly sustainable and comfortable urban environments for present and future generations. The article shows and proves the fundamental possibility of using AI in the form of GNN for conducting research and measurements using qualimetry. Further research should be aimed at developing practical methods for assessing and integrating value into the practice of implementing ITD projects.

REFERENCES

1. *Korostelev S.P., Tsypkin Yu.A., Sharipov S.A. Theory and practice of land management in urbanized territories. Moscow, MIRAA Publishing House, 2025; 294. (rus.).*
2. *Korostelev S.P., Tsypkin Yu.A., Korostelev Yu.S. Opposition to the most effective and rational use in projects of integrated development of territories. Real Estate: Economics, Management. 2024; 4:190-197. (rus.).*
3. *Seis S., Smith D., Cooper R., Venmore-Rowland P. Real estate appraisal: from value to worth. ROO. Moscow, ROO, 2009; 504. (rus.).*
4. *Korostelev S.P., Bliznyukova T.V., Borisychev R.G., Valiev D.S., Varlamov A.A., Galchenko S.A. et al. Real Estate Investments. Moscow, IP Osminina E.O., 2020; 360. (rus.).*
5. *Nilipovsky V.I., Korostelev S.P. Mass (cadastral) valuation of real estate. Moscow, Federal State Budgetary Educational Institution of Higher Professional Education State University of Land Management, 73. (rus.).*
6. *Korostelev S.P. ESG assessment of real estate and taxation // Land management, cadastre and land monitoring. 2021; 9(674-679). DOI: 10.33920/sel-4-2109-05. EDN LTYEWI. (rus.).*
7. *Kosinskiy V.V., Ivanov N.I., Korostelev S.P. The role and place of land management in the strategy of social and economic development of the Russian Federation aimed at low greenhouse gas emissions. Land management, cadastre and land monitoring. 2023; 4:205-213. DOI: 10.33920/sel-04-2304-02*
8. *Ma L., Chen N., Wang Ch., Xiang L. Spatiotemporal evolution of urban carbon balance and its response to new-type urbanization: A case of the middle reaches of the Yangtze River Urban Agglomerations, China. Journal of Cleaner Production. 2022; 380:135122. DOI: 10.1016/j.jclepro.2022.135122*
9. *Shevchenko T.V., Astafieva O.S., Korostelev Yu.S. Analysis of the methodology for assessing "green" multi-apartment residential buildings based on GOST R 70346–2022 "Green Standards". Moscow Economic Journal. 2024; 9(2):218-238. DOI: 10.55186/2413046X_2023_9_2_79. EDN FXWPTD. (rus.).*
10. *Korostelev S.P., Kosinsky V.V., Korostelev Yu.S. Problems of carbon land management methodology. Land management, cadastre and land monitoring. 2024; 1:25-29. DOI: 10.33920/sel-04-2401-03. EDN JRCGEQ. (rus.).*
11. *Azgaldov G.G. Theory and practice of assessing the quality of goods. Fundamentals of qualimetry. Economics. Moscow, 1982; 256. (rus.).*
12. *Azgaldov G.G., Kostin A.V., Sadovov V.V. Qualimetry for all : textbook. Moscow, Publishing house InformZnanie, 2012; 165. EDN SJOOHH (rus.).*
13. *Azgaldov G.G., Kostin A.V., Padilla Omiste A. The ABC of Qualimetry Toolkit for measuring the immeasurable. Ridero, 2015; 167. EDN VHZNRB.*
14. *Korostelev S.P., Astafieva O.S. The use of artificial intelligence for modeling expert opinion in qualimetry. Proceedings of the International scientific and practical conference. Moscow, 2023; 36-46. EDN EIJULW. (rus.).*

Измерение ценности в проектах комплексного развития территорий

В статье рассматривается проблема разграничения и учета понятий стоимости и ценности при реализации проектов комплексного развития территорий (КРТ). Анализируется традиционный фокус на экономической стоимости и обосновывается необходимость расширения оценки за счет включения многогранной ценности, охватывающей социальные, экологические, культурные и эстетические аспекты. Особое внимание уделяется роли государственного оператора КРТ как потенциального представителя долгосрочных ценностей и интересов будущих поколений. Предлагаются подходы к оценке и интеграции различных аспектов ценности с использованием квалиметрического анализа и генеративных нейронных сетей в процессы принятия решений в рамках КРТ.

Ключевые слова: *комплексное развитие территорий, стоимость, ценность, квалиметрия, нейронные сети, стейкхолдеры, устойчивое развитие, государственный оператор КРТ*

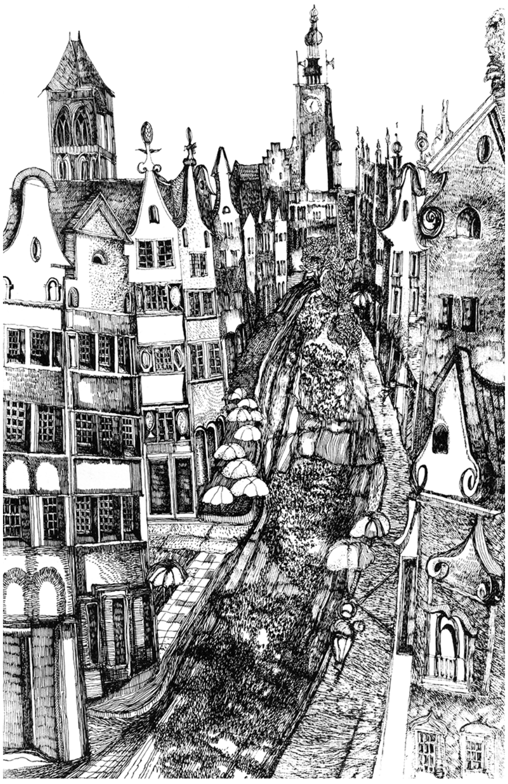
СПИСОК ИСТОЧНИКОВ

1. Коростелев С.П., Цыпкин Ю.А., Шарипов С.А. Теория и практика землеустройства на урбанизированных территориях. М. : «МИРАА», 2025. 294 с.
2. Коростелев С.П., Цыпкин Ю.А., Коростелев Ю.С. Противостояние наиболее эффективного и рационального использования в проектах комплексного развития территорий // Недвижимость: экономика, управление. 2024. № 4. С. 190–197.
3. Сейс С., Смит Д., Купер Р., Венмор-Роуланд Пьер. Оценка недвижимого имущества: от стоимости к ценности. РОО. М. : РОО, 2009. 504 с.
4. Коростелев С.П., Близнюкова Т.В., Борисычев Р.Г., Валиев Д.С., Варламов А.А., Гальченко С.А., и др. Инвестиции в недвижимость. М. : ИП Осьминина Е.О., 2020. 360 с.
5. Нилиповский В.И., Коростелев С.П. Массовая (кадастровая) оценка стоимости недвижимости. М. : ФГБОУ ВПО Государственный университет по землеустройству. 73 с.
6. Коростелев С.П. ESG-оценка недвижимости и налогообложение // Землеустройство, кадастр и мониторинг земель. 2021. № 9. С. 674–679. DOI: 10.33920/sel-4-2109-05. EDN LTYEWI.
7. Kosinskiy V.V., Ivanov N.I., Korostelev S.P. The role and place of land management in the strategy of social and economic development of the Russian Federation aimed at low greenhouse gas emissions // Land management, cadastre and land monitoring. 2023. No. 4. Pp. 205–213. DOI: 10.33920/sel-04-2304-02
8. Ma L., Chen N., Wang Ch., Xiang L. Spatiotemporal evolution of urban carbon balance and its response to new-type urbanization: A case of the middle reaches of the Yangtze River Urban Agglomerations, China // Journal of Cleaner Production. 2022. Vol. 380. P. 135122. DOI: 10.1016/j.jclepro.2022.135122
9. Шевченко Т.В., Астафьева О.С., Коростелев Ю.С. Анализ методики оценки «зеленых» многоквартирных жилых зданий на основе ГОСТ Р 70346–2022 «Зеленые стандарты» // Московский экономический журнал. 2024. Т. 9. № 2. С. 218–238. DOI: 10.55186/2413046X_2023_9_2_79. EDN FXWPTD.
10. Коростелев С.П., Косинский В.В., Коростелев Ю.С. Проблемы методологии карбонового землеустройства // Землеустройство, кадастр и мониторинг земель. 2024. № 1. С. 25–29. DOI: 10.33920/sel-04-2401-03. EDN JRCGEQ.
11. Азгальдов Г.Г. Теория и практика оценки качества товаров. Основы квалиметрии. Экономика. М., 1982. 256 с.
12. Азгальдов Г.Г., Костин А.В., Садовов В.В. Квалиметрия для всех : уч. пособие. М. : ИД ИнформЗнание, 2012. С. 125. EDN SJOOHH.
13. Azgaldov G.G., Kostin A.V., Padilla Omiste A. The ABC of Qualimetry Toolkit for measuring the immeasurable. Ridero, 2015. 167 p. EDN VHZNRB.
14. Коростелев С.П., Астафьева О.С. Применение искусственного интеллекта для моделирования экспертного мнения в квалиметрии : сб. мат. Междунар. науч.-практ. конф. М., 2023. С. 36–46. EDN EIJULW.

Об авторе: **Коростелев Юрий Сергеевич** — аспирант; **Государственный университет по землеустройству**; 105064, г. Москва, ул. Казакова, д. 15; ORCID: 0009-0000-2846-1886; korostelevjs@mail.ru.

For citation: Korostelev Yu.S. Value assessment in integrated territorial development projects. *Real Estate: Economics, Management*. 2025; 2:32-37.

Для цитирования: *Коростелев Ю.С.* Value assessment in integrated territorial development projects // Недвижимость: экономика, управление. 2025. № 2. С. 32–37.



Гданьск. Улица Длуга. Офорт