



Organizational Aspects of Development Projects Implementation at the Real Estate Market in Ukraine

Lyudmyla Svistun^{1*}, Alina Glushko², Kateryna Shtepenko³

¹*Poltava National Technical Yuri Kondratyuk University, Ukraine*

²*Poltava National Technical Yuri Kondratyuk University, Ukraine*

³*Poltava National Technical Yuri Kondratyuk University, Ukraine*

*Corresponding Author E-Mail: Milapoltava@Rambler.Ru

Abstract

The article is dedicated to the issues of improving a system of organizational providing of investment constructional activity at the real estate market of Ukraine. The authors suggest modern approaches to organizing different stages of investment and construction process. In particular, legal bases for organizing real estate development project concept design stage are analyzed and the ways of permissible procedures simplifying in construction are defined. Suggestions concerning choice of approaches to evaluating real estate projects development effectiveness of realization are made, where an important place belongs to development land improvement estimation. Real estate development project estimation methodology for various real estate types considering special aspects of conducting marketing research is offered. The article conclusion contains means recommended for implementing by real estate development organizations while designing their strategy of development.

Keywords: *construction organization, investment and construction activity, real estate development company, real estate development project, real estate development project marketing.*

1. Introduction

Nowadays real estate market is a specific form of market relations. Its development has become one of the key directions for developing in Ukraine an economic system based on dominance of private ownership and market self-regulating, functional and development mechanisms. In the process of developing, real estate market, being a general market constituent reflects problems in economy and social sector, while investment volume into it in a great many defines real perspectives of the country's economy growth. Real estate market effective functioning can purposefully be defined as an indicator of the country's economic development level. Investment activity in the real estate sector can ensure national economy extended renewal and increase in society well-being. Insurance of such market development in the country is demand for qualitative real estate objects, which require coordinated work of a team of specialists that is effective investment and construction activity for financing, designing, construction and managing. Global trend in a real estate object construction market is attracting professional market participants which ensure the process complex management. This fact has caused appearance on the real estate market new professional participants – real estate development companies – which are engaged in developing real estate objects user value.

At the present stage of investment and construction sphere in Ukraine there is a decline in investment activity of practically all groups of investors, namely the state, enterprises and organizations, individuals. As a result of this there was a significant decrease in construction market, increase in a share of unfinished constructions, there were changes taking place in the

structure of construction and assemblage works conducting, and decline in Ukrainian construction companies' credit worthiness. Another problem of investment and construction sphere is difficulty of financing sources choice. This problem is deepening due to stock market underdevelopment and imperfection of legislative base regarding regulating organizational activity on funds investment. Investors face a problem of gaining a profit and timely performing contract obligations as for objects constructing. That is why an issue of study the investment and construction processes activity organizing and financing improvement is becoming increasingly relevant.

The issue of organizing functioning of the real estate development companies investment and construction activity attracts attention of the scientists worldwide, testifying its importance. Among the latest are investigations by such scientists as R. Peiser, A. Frej, R.Hardy, D. Suchman, G. Squires, Dzh. Fridman, I.I. Mazur, V.I.Shapiro, A.M. Asaul, M. Dyba, Ye.A. Polishchuk, K.L. Larionova, A.A. Peresada and others [1-5, 18]. The majority of scientists have dedicated their works to study of theoretical and practical fundamentals of investment and construction activity. In particular the works by R. Peiser, R.Hardy, D.Suchman, O. Bischoff, R.Barlindhaug, H. Haapasalo are dedicated to issues of real estate development companies activities general managing and planning [1, 3-5, 7, 10, 19]. A lot of scientists study actual aspects of real estate development projects effectiveness estimation [9, 13, 14, 16-18, 21].

Making investment decisions in the real estate sphere is closely connected to analysis of real estate market and level of economic development. Market integrated analysis enables real estate development company making decisions effectively and provide real estate market development. Also a system of economic

benefits in the real estate development projects estimation is considered, which is done by allowance for buildings qualities while defining rate of return. Additional effectiveness is provided by relevant project development certification systems. Results of such estimation are included into market value calculations and investment and construction project internal profit norms. Estimation system simplifies making investment decisions and increase projects economic success. A number of investigations consider an issue of development land cost and dependence of land boundaries facilities level of projects total profitability [2, 9, 15]. Also influence of permissive policies on land cost is considered [6]. As a rule, land cost increases together with building permissions growth in number. Works by Berrak Bahadir and Olena Mykhaïlova are dedicated to organizational aspects of investment and construction activity project concept design stage [8].

Construction activity effectiveness depends on the length of time required for obtaining permission. Project financing also depends on delay in obtaining permission for residential construction and projects completion. Besides various aspects of completed investment and construction project marketing are investigated [10, 12, 20].

Less attention is paid to research of tendencies in developing real estate development companies at the real estate market. Issue of effective organizing and financial provision of real estate development projects realization remains relevant, which in turn defines the choice of the research theme.

The aim of the current work is to define the ways for improvement the system of investment and construction projects organizational provision at the real estate market in Ukraine.

2. Page Layout

One of the key directions for increasing management effectiveness in real estate sphere investment and construction activity is development. Today this idea is extensively used by investment and construction process participants and is separated by them into special activity type [1, 5]. Herewith the idea of development is often associated with construction processes, real estate brokers' activity and commercial real estate objects management. In Ukraine, market of real estate development services began its formation in mid 90-s. At present real estate development companies are active participants of real estate market performing investment and construction projects realization creating real estate objects user value.

Real estate development advantages comparing to traditional forms of organizing investment and construction activity are the following:

- 1) full responsibility for the final results of investment and construction activity;
- 2) provision of a full range of the main and supplementary services;
- 3) availability of prolonged business connections at productive and managerial levels with real estate, consulting, engineering and other business structures;
- 4) establishment of partners relations with state and local self-government authorities, interested in real estate development projects realization;
- 5) improvement in the financial results of activity by means of risks minimization when transiting from cost method to projects budgeting;
- 6) ensuring high quality of works due to employees professionalism increase by their constant training in modern managerial methods and up-dated construction technology;
- 7) application of modern approaches by means of using managerial account systems which led to improvement in construction costs management;
- 8) competition based project participants selection.

The foundation of overseas real estate development is made by private investors funds attraction. It is commonly acknowledged at

the West that real estate development projects should better start at market minimum activity, but with the first sights of its revival. And if the project "matures" in time, it will be fast-growing [4]. In Ukrainian practice, as a rule an initial precondition include developing land and it is the basics of real estate development ideas creation. It can be noted that the basis of western real estate development model is an "idea", while land is the basis of domestic model.

In general, investment and construction activity is characterised by a number of stages [5], whereby the following is carried out: the issues of prospective construction technical feasibility and economical purposefulness are worked out; object placement area is chosen; necessary coordination and execution of permissible documentation is conducted, projects and estimate documents are shaped, construction area preparation is carried out, holding a competitive tender for supplying and construction contracts, contracting and assembling works are performed according to project approved documentation equipment and construction materials are delivered to constructing objects according to approved timetables. Investor-customer provides financing of these expenditures at expense of their main activity funds. Investment and construction activity is finished with setting the objects into exploitation, formalization of ownership and management and results disposing (fig.1).

In domestic practice organizing of real estate development projects includes project concept design stage and project preparation. Key objectives performed at the stage of project concept design involve developing tasks for projecting, creating, coordinating and approving of initial permissible documentation and getting permission for constructing.

Construction project preparation includes making four major steps:

1. Project concept design work and (or) developing, coordinating and approving of architectural and city-planning decision that is an architectural project.
2. Development, coordinating, expertise and approval of projecting documentation on a project, and a part of a working project which is being approved.
3. Working documentation development.
4. Formalization of permission and order for conducting construction and assembling and ground work.

Considering the above mentioned it is possible to state the project concept design and construction project preparation to be a time-consuming and complicated procedure.

One of the directions for improving organizational aspects of investment and construction projects can be purposefully defined as simplifying the permissible and approval procedures in city-planning sphere at the legislative level.

In 2017 the Law of Ukraine "On introduction changes to some of the legislative acts of Ukraine on improving city-planning activity" was enacted, which changed the order of permission documents for construction formalization for all the construction market participants and excluded possibilities for manipulation, namely: categories of complexity were abolished, construction objects were divided into classes according to their consequences (low, average and high). Each of the classes obtained its own permissible procedure, limits and criteria for testing.

In this case, the class of consequences will be determined in accordance with the requirements of construction norms, standards, regulations and rules approved by law for each object namely house, buildings, structures of any destination, their parts, linear objects of engineering and transport infrastructure, including those belonging to the complex.

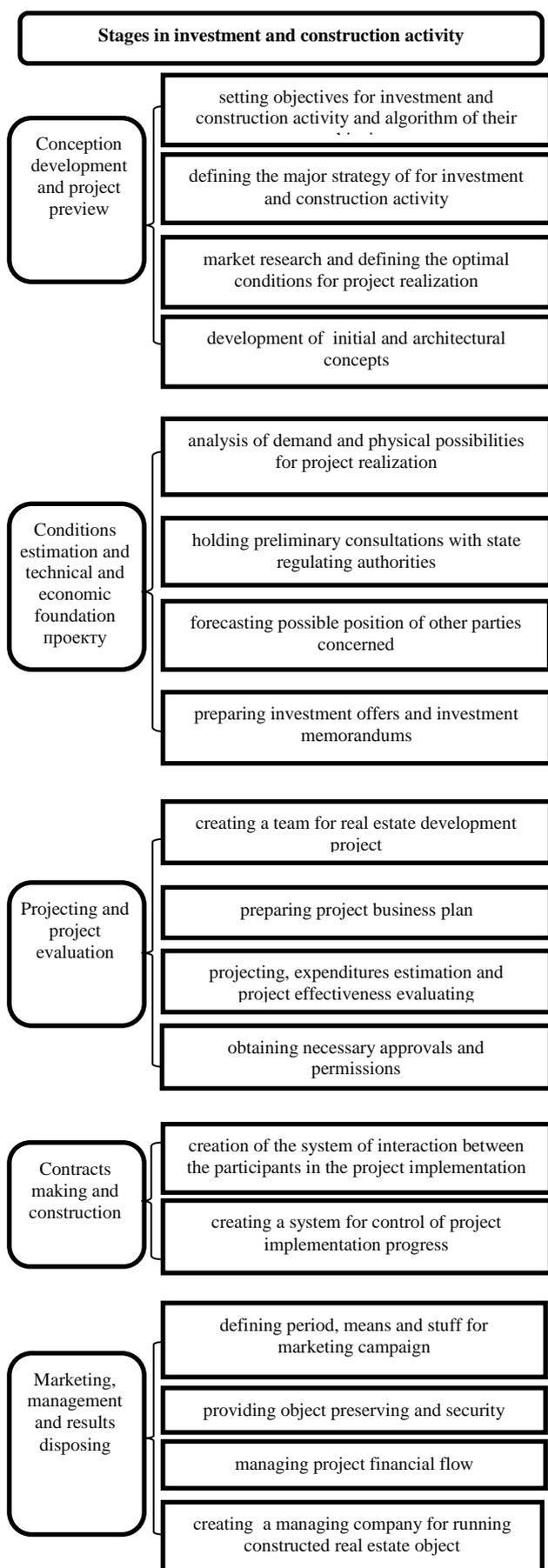


Fig. 1. Stages of investment and construction activity conducting

According to the Law mentioned, instead of 5 categories of complexity, the construction objects classification of three classes of consequences (responsibilities) was implemented as follows:

1. Objects with low consequences (relating to I and II categories as required by the law)
2. Objects with average consequences (III and Iv categories)
3. Objects with high consequences (V category).

There was abolished declaration on start of preparatory/construction work as a permissible document. Still, declarations registered before the Law entry into force remained lawful till the construction completion.

From the moment of implementing the stated changes preparatory and construction work are carried on the following basis:

- 1) announcement about the beginning of preparatory/construction work (for objects with low consequences)
- 2) permission for conducting construction work (for objects with average and high consequences).

Introducing of legislative changes in city-planning contributed to simplifying of constructing procedure for some objects (residential houses up to four stores, small administrative blocks). The Law enabled such objects construction bases on the announcement, not a declaration on the beginning of construction works, which enabled construction beginning at the next day after the announcement.

The Law of Ukraine “On introduction changes to some of the legislative acts of Ukraine on improving city-planning activity” is aimed at combating with construction developers underrating complexity categories from IV to III. Legislative changes were most significant for objects with III complexity category. In particular beginning from 2017 such objects construction has to be licensed, requires obtaining permission for construction work, while project documentation must be examined.

The reforming conducted in the construction permissible sphere enabled Ukraine to rise by 105 positions in the Doing Business World bank rating upon “obtaining permission for construction” index. According to the World Bank data, in 2016 the country occupied 140th place according to this criteria, while in 2017 it occupied 35th place, outrunning the USA and Finland.

Still, the issue of further improvement in construction permissible system remains relevant nowadays.

Main directions in improving organizational aspects in investment and constructing projects realization can be defined as simplifying permissible and approval procedures by the following means:

- 1) decrease in number of permissible and approval procedures, shortening the time required for their conducting and the list of the necessary documents;
- 2) implementing in the construction permissible system the principles of acquiescence, single point of contract and organizational unity;
- 3) performing separate types of household activity without obtaining permissible document with the foundation of the technical relevance to the legal requirements declaration;
- 4) personification of physical entities responsibility, gradual transition from household activity licensing connected to architectural object creation, to professional attestation of certain work performers;
- 5) deregulation of household activity by means of transiting a part of functions from the state regulation to self governing organizations control.

Implementing of the changes suggested will enable simplifying permissible and approving procedures in construction, adapt Ukraine’s regulatory policy to the European standards [22], and ensure favorable conditions for construction and related spheres development.

Methodology for real estate development projects efficiency estimation also requires changes. Any methods should be based on the certain land plot best usage. Real estate development projects can be erased on such land plots as: undeveloped land; developed land requiring improvements; developed land requiring no improvements. That is why evaluating the real estate development project efficiency factors to consider should include available land plot and type of real estate to be constructed. As far as real estate development project is a development project, it is important for the investor to evaluate real estate object level of development in qualitative and quantitative

(financial) aspects [13, 14, 21]. Thus we suggest evaluating a real estate development project according to the scheme given in fig. 2.

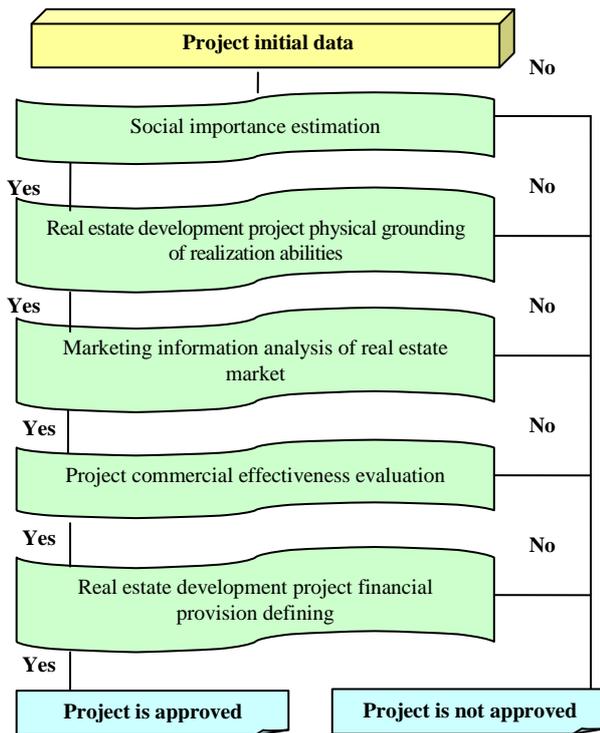


Fig. 2: Real estate development project effectiveness evaluation effectiveness

Initial stage is an expert evaluation of a project social value importance. Large-scale, macroeconomic and global projects are considered to be socially important. Evaluation of the local projects begins with the second stage.

Project physical grounding of realization abilities includes the following parameters: surface topography, real estate development safety and environmental compatibility, availability of engineering buildings and communications.

The necessity of improving land plot should be considered while changing the parameters mentioned. In fact, changes in surface topography, form of land plots, supplying communications includes increase in preparation expenses that are not always reasonable [2, 6]. That is why a system of land plot improvement previous evaluation is suggested (Table 1).

Table 1: land plot improvement level

improvement parameters	Level of improvement
surface topography	0; 0,5; 1
land plot shape	0; 0,5; 1
safety and environmental compatibility	0; 0,5; 1
engineering buildings and communications	0; 0,5; 1
Total points, N	

If none of these parameters require improvement, the point will be equal to 0; in case it requires slight or partial changes, the point will be equal to 0,5; if constructing a real estate development object requires considerable changes of a land plot, the point will be the highest – 1. Then, summing the points, it is possible to calculate the territory improving index by means of dividing the sum of points (N) into the number of parameters (n) (1):

$$\text{Index of territory improvement} = N/n \quad (1)$$

If index of territory improvement is approaches 1 (from 0,75 to 1), then transformation index will be significant, which in turn will increase a projects items of expense and prolong construction time. If the index is within limits from 0,4 to 0,74, it testifies about a low transformational level. And if an index is less than 0,4 but exceeds zero, than both transformations and expenses will be minimal.

Real estate development project effectiveness should also be considered from technical point of view with the focus on project documentation analysis. Result of such analysis should be reflected in approval of object's relevance to project documentation norms and land plot characteristics; revealing of ineffective project decisions; project realization grounding. In terms of such technical expertise special attention should be paid to:

- construction object general characteristics: analysis of permissible documentation, technical conditions, general lay-out and architectural and planning decisions;
- building area characteristics;
- characteristics of architectural and constructional project development: analysis and characteristics of constructions materials, frontage and other formations; analysis of termotechnical calculations and noise protection;
- analysis of foundations, floorings and load bearing elements;
- characteristics of water supply and sewer systems; system of hot and cold water supply characteristics, expertise of heat conductors and water usage; conclusion on external water supply and sewer systems;
- electricity and electric equipment supply (analysis of a building electricity supply and external electric networks);
- ecological relevance;
- analysis of project documentation completeness level.

If a land plot is considered to be an attractive one, real estate development company is recommended to proceed to marketing research. Marketing research range and depth has to be defined by complicity and novelty of the problems that a project faces as well as importance of these problems for the project. Matrix by R.Kühn can be used as guidance while conducting marketing research. This matrix can be used in accordance with a type of requirements for each of the problems.

Requirements of the I type: detailed and complete analysis; comprehensive analysis of real estate market and rivalry; detailed analysis of future strategic variants; improvement of real estate developer strategies with checking and grounding of the main proposals.

Requirements of the II type: problems comprehensive analysis; rough estimation of the most important strategic alternatives for the real estate developer; improvement of most important strategic alternatives for the real estate developer.

Requirements of the III type: description and estimation of the main problems relating to the real estate development project; project conception general analysis without alternative variants detailed consideration.

Requirements of the IV type: simple estimation of real estate development project conditions; preparation of project conception regarding the most important or crucial aspects only.

Choice of requirements is done in accordance with Table 2.

Table 2: Classification of problems and requirements to research while grounding real estate development project

Problem complicity or novelty	Problem importance for the project		
	High	Average	Low
High	I	I	II
Average	I	II	III
Low	II	III	IV

An important stage in conducting a research is estimation of necessary and sufficient information amount [12, 20]. As far as gathering information as well as information itself in the present days economy has a high price, information gathering process requires adequate management. Dependence of cost value and information value on its amount (volume) is represented at fig. 3.

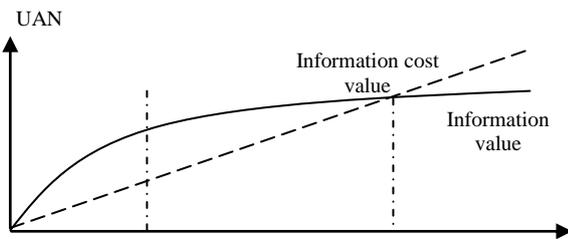


Fig. 3: Dependence of information value and cost value on its amount

maximum. B point is an effectiveness border, exceedance of which will mean losses.

Thus, real estate development companies need to build such charts for each type of information, which will enable easy and fast defining the moment of inexpedient further information gathering.. In the methodology of real estate development project effectiveness evaluating the type of real estate used for development conducting as well as other elements, should be considered. We suggest using a number of factors given in Table 3.

A point is an optimum considering information purchase effectiveness, as far as the difference between its value and cost is

Table 3: Parameters of marketing research while grounding real estate development project effectiveness realization

Real estate development type	Marketing research parameters																							
	Real estate market						Competitive environment					Consumer characteristics					Object characteristics				Macroeconomic indices			
	Segmenting	Capacity	condition	Saturation	Market share	Vacant positions rate	Competitive advantages	Pricing policy	Market barriers	Market competitors share	Capitalization average rates	Income	Behavior	Age	Employment	Amount	Launching	Pricing	Location	Quality	Inflation	Retailing turnover	Investment climate	Legislation
Residential real estate	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+
Business real estate	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+
Trading real estate	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Logistics real estate	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	-	+	+	+	+	+	+	+	+
Hotel real estate	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+

Parameters with “+” sign are recommended to use in project environment marketing research, with “-” sign are not obligatory, as far as they do not have principle influence on taking decisions on project realization. Each of the parameters if given in a wide sense, but they also are to be considered in narrower sense. For instance, this is the case of object location. It is influenced by macro factors (in accordance with the central part of the town within the town limits, distance from the rival objects, direction for town development, regional entertainment and trade centers, local and regional parks, cultural places); and micro factors (distance from principal highways, schools, shops, kindergartens and medical centers). Let us state that object location place further defines its class and rate of return.

Real estate development companies also have to conduct occasional research referring defining their place at the real estate market and planning real estate development business. The mentioned measure will help to define priority directions for the activity development, reveal their own strong and weak sides and coordinate strategic development plan [3]. Research can be purposefully conducted in a questionnaire form for all the real estate development process participants.

To make a rational managerial decision on creating a development strategy, gradual performing of a range of actions is recommended for real estate development companies (Table 4).

Table 4. Graduation of activities while creating real estate development companies development strategies.

Managerial measures	Objectives necessary to perform for achieving positive results
1. Potential estimation and defining the abilities of real estate development organization	Conducting real estate development organization assets auditing with attracting professional auditing firms, aimed at obtaining proved and grounded data
2. Analysis of a position occupied by real estate development organization at the real estate market, and evaluation of market niche capacity.	Defining a firm market share at the real estate development service market and planning activity in accordance with existing demand which ensure flexible managing the production capacities
3. Intercomparison of development abilities and market demands	Defining disbalance between the level of managerial personnel and available assets of real estate developer by means of finding development resources which in turn motivates to taking relevant managerial decisions
4. Taking managerial decisions aimed at real estate development organization development	Strategy development contributing to real estate development organization effective development and rational management regarding real estate market changes trends
5. Control and estimation of set objectives performing on developmental management of real estate development organization	Evaluating the level of achieved goals and revealing the reasons causing leeway form the results expected, and defining measures on their elimination

Among the most important factors influencing effectiveness of real estate development organization development management, the following factors should be noted:

- principal achievability of a set goal in due time, which is defined by availability in the time given of the conditions (necessary material, labor, financial and informational resources) which do not depend on a real estate and relevant environmental condition (legislative base of corporate management and real estate management, taxation system, credit policy and rivalry level;
- scientific foundation of planned actions which enables using commonly approved and tested through practice methodical investigations in the sphere;
- not only owners and shareholders, but also managers and all the company personnel interest in effectiveness objective estimation;
- apprehensibility for organizational and economic and managerial procedures performers in the process of implementing actions aimed at achieving planned results.

These will enable the possibility for ensuring of taking effective managerial decisions by real estate development companies managers.

3. Conclusions

Thus, investment and construction projects realization effectiveness at the real estate market appropriately depends on real estate development project level of organization. Priority directions for improving organizational aspects of real estate development projects are defined as follows:

- improving the state legislative basis aimed at simplifying the mechanism of obtaining construction permissible documentation;
- improving effectiveness evaluating methodology for real estate development project;
- extending market research parameters while substantiating investment and construction project realization effectiveness;
- using budgeting and implementing new schemes of real estate development projects financing.

References

- [1] Peiser, Richard B., with Anne B. Frej. Professional Real Estate Development: The ULI Guide to the Business Second Edition. Washington, D.C.: ULI-the Urban Land Institute, 2003.
- [2] Peiser Richard B. The determinants of nonresidential urban land values. *Journal of Urban Economics*, Volume 22, Issue 3, November 1987, Pages 340-360 [https://doi.org/10.1016/0094-1190\(87\)90032-5](https://doi.org/10.1016/0094-1190(87)90032-5)
- [3] Hardy, R. Strategic Planning in Development Firms // *Real Estate Development*. – 1998. - №3. – p. 28-42.
- [4] Suchman, D.R. Managing a Development Company // *Real Estate Development*. – 1987. - №12. – p. 13-18.
- [5] Dyba M., Polishchuk Ye.A. Developerski kompanii na investytsiinomu rynku Ukrainy: Monohrafiia.– K.: KNEU, 2011 r. – 422
- [6] Asabere Paul K., Huffman Forrest E. Building Permit Policy and Land Price Distortions: Empirical Evidence. *Journal of Housing Economics*, Volume 10, Issue 1, March 2001, Pages 59-68 <https://doi.org/10.1006/jhec.2001.0278>
- [7] Barlindhaug, R., & Nordahl, B. I. (2018). Developers' price setting behaviour in urban residential redevelopment projects. *Journal of European Real Estate Research*. DOI: 10.1108/jerer-03-2017-0014.
- [8] Bahadir B., Mykhaylova O. Housing market dynamics with delays in the construction sector. *Journal of Housing Economics*, Volume 26, December 2014, Pages 94-108 <https://doi.org/10.1016/j.jhe.2014.09.005>
- [9] Beenstock M., Felsenstein D. Estimating spatial spillover in housing construction with nonstationary panel data. *Journal of Housing Economics*, Volume 28, June 2015, Pages 42-58 <https://doi.org/10.1016/j.jhe.2014.10.002>
- [10] Bischoff O. Explaining regional variation in equilibrium real estate prices and income. *Journal of Housing Economics*, Volume 21, Issue 1, March 2012, Pages 1-15 <https://doi.org/10.1016/j.jhe.2011.11.002>
- [11] Cerutti E., Dagher J., Dell'Ariccia G. Housing finance and real-estate booms: A cross-country perspective. *Journal of Housing Economics*, Volume 38, December 2017, Pages 1-13. <https://doi.org/10.1016/j.jhe.2017.02.001>
- [12] Ford J.S., Rutherford R.C., Yavas A. The effects of the internet on marketing residential real estate. *Journal of Housing Economics*, Volume 14, Issue 2, June 2005, Pages 92-108 <https://doi.org/10.1016/j.jhe.2005.06.003>
- [13] Fröch G. Sustainability issues in the valuation process of project developments. *Energy and Buildings*, Volume 100, 1 August 2015, Pages 2-9 <https://doi.org/10.1016/j.enbuild.2014.12.017>
- [14] Kauškale L., Geipele I. Integrated Approach of Real Estate Market Analysis in Sustainable Development Context for Decision Making. *Procedia Engineering*, Volume 172, 2017, Pages 505-512 <https://doi.org/10.1016/j.proeng.2017.02.059>
- [15] Kok N., Monkkonen P., Quigley John M. Land use regulations and the value of land and housing: An intra-metropolitan analysis. *Journal of Urban Economics*. Volume 81, May 2014, Pages 136-148 <https://doi.org/10.1016/j.jue.2014.03.004>
- [16] Mattarocci G. (2015) Asset Allocation Strategy and Market Return for Real Estate Institutional Investors. In: Mattarocci G., Pekdemir D. (eds) *European Real Estate*. Palgrave Macmillan, London. DOI: 10.1057/9781137436122_10.
- [17] Real Estate Financing. (2015). Wealth Opportunities in Commercial Real Estate, 119–155. DOI: 10.1002/9781119202790.ch5.
- [18] Squires G., Heurkens E. Methods and models for international comparative approaches to real estate development. *Land Use Policy*, Volume 50, January 2016, Pages 573-581. <https://doi.org/10.1016/j.landusepol.2015.10.005>
- [19] -Pyykkönen M.T., Aaltonen K., Haapasalo H. Procurement in the Real Estate and Construction Sector (RECS) – Preliminary Context-specific Attributes. *Procedia Economics and Finance*, Volume 21, 2015, Pages 264-270 [https://doi.org/10.1016/S2212-5671\(15\)00176-8](https://doi.org/10.1016/S2212-5671(15)00176-8)
- [20] Zumpano Leonard V., Johnson Ken H., Anderson Randy I. Internet use and real estate brokerage market intermediation. *Journal of Housing Economics*, Volume 12, Issue 2, June 2003, Pages 134-150 [https://doi.org/10.1016/S1051-1377\(03\)00018-4](https://doi.org/10.1016/S1051-1377(03)00018-4)
- [21] . Zujo V., Car-Pusic D., Zileska-Pancovska V. Cost and Experience based Real Estate Estimation Model. *Procedia - Social and Behavioral Sciences*, Volume 119, 19 March 2014, Pages 672-681 <https://doi.org/10.1016/j.sbspro.2014.03.075>
- [22] Glushko A.D. Directions of Efficiency Increase of State Regulatory Policy in Ukraine. *World Applied Sciences Journal*. 27 (4): 448-453, 2013 DOI: 10.5829/idosi.wasj.2013.27.04.13656