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**EXPLANATORY NOTE
FOR THE GRADUATE THESIS
TO OBTAIN THE MASTER'S DEGREE**

on the subject:

**Update of the development system for enterprises-
stakeholders of construction on the basis of modern risk-
adapted management approaches.**

Kyiv 2024

**KYIV NATIONAL UNIVERSITY OF CONSTRUCTION AND
ARCHITECTURE**

Faculty of Construction, Department of Management in Construction

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**" Update of the development system for enterprises-stakeholders of
construction on the basis of modern risk-adapted management approaches"**

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INTRODUCTION

The formation of market relations in the economy led to the emergence of new independent directions in domestic management, which arose as a result of a critical rethinking of advanced foreign management theory and practice, the development of original management approaches, methods and tools. Project management occupies the most significant place in the structure of modern management.

Initially, the term "project" was most often used by designers in construction, where the construction of any object is always unique in many respects. Although in modern conditions, projects are implemented in various fields, thanks to the specifics of construction, this term has acquired a different meaning: a project is a systematic set of planning (financial, technological, organizational, and other) documents that contain a complex-systemic model of actions invested in achieving the original goal.

Project management (project management) is a special type of management activity based on the preliminary collegial development of a complex system model of actions to achieve the original goal and aimed at the implementation of this model.

Today, project management has become a globally recognized professional activity. Methodology and tools of project management are widely used in all areas of targeted and

project-oriented activity. Over the past 30 years, project management has emerged as a new culture of management activity and has become a kind of cultural bridge in civilized business and business cooperation between countries on different continents with different development histories, traditions, economies and cultures.

Nowadays, it is already difficult to name at least one significant project, which would be carried out outside the framework of the ideology and methodology of project management. It is also difficult to name at least one well-known company in the world that does not use the methods and tools of the project approach in its practice.

This diploma project raises issues related to the management of a development project at the development stage. It is obvious that any development project is inextricably linked with huge risks, because only "small money" can be risk-free.

The most important features of the real estate market are locality, high dependence on the state of the regional economy, long-term nature of investments, low liquidity of the product on the market.

Superimposed on the high capital intensity of real estate objects and the significant level of costs of real estate transactions, these circumstances place the problem of risk management in one of the first places in development. The problem of risk management looks more than relevant today also due to the development of the development crisis of 2008. in Ukraine, perhaps if builders, investors and developers had paid more attention to this issue, we would not have faced a crisis situation.

The diploma project examines the pre-investment stage of the development project using the example of the business center construction project

"Zaporizka, 3" in Kyiv using modern project management methodology, as well as proposals for risk management of the development project were developed on the basis of these data.

CHAPTER 1.

THEORETICAL FUNDAMENTALS OF MANAGEMENT DEVELOPMENT PROJECTS

CONCEPTS AND CHARACTERISTICS OF THE DEVELOPMENT PROJECT

The concept of "development" became familiar to participants in the real estate market in 2000, when, having recovered from the crisis, it began to develop rapidly.

The concept of "development" became familiar to participants in the real estate market in 2000, when, having recovered from the crisis, it began to develop rapidly.

Everyone began to call themselves developers - investors, contractors, and companies that managed to reserve large plots of land. In this case, the classic development or promotion of the project from the idea to the sale (or rental) to the end user for a certain fee is practically not represented in Ukraine. This can be explained by some peculiarities of the Ukrainian real estate market - the underdevelopment of the financial sector, the lack of available information about the market situation, as well as the complex and opaque relations between business and the government.

For a long time, the real estate market was the market of developers. They fought for city orders, profitable sites and volumes. Development began to emerge when customers began to pay attention not only to quantitative indicators, but also to the quality of projects. It is not enough to simply build a building - it is necessary to make the project physically possible, legally permissible, as well as justified and in demand in this place in this environment. Ideally, development companies take on the entire complex of works for the creation of a new real estate object: develop a concept, select a plot, organize design, manage construction, and find end users. This is a multi-level business that requires the involvement of a significant number of specialists in the field of marketing, budget planning, architectural design, construction, engineering, sales of space, advertising, etc.

At the moment, the concept of development (from the English to develop - to develop, develop, reveal) is understood as the concept of the organization of the investment process, which ensures effective business relations between the participants of the investment process and is maximally aimed at "results".

The essence of this concept lies in the systemic, "end-to-end" influence on the investment process, in which the development, organization of financing, and implementation of real estate development projects are carried out by a relatively new market participant in the professional services market - a developer that ensures the creation, management, and sale of real estate objects within the given time limits, within the relevant budget limits, often with the use of own funds.

Development is a type of activity that involves qualitative changes in the object and ensures, as a rule, an increase in its value. In general, development objects include not only real estate objects, but also the development of, for example, show business, information technologies, etc. shares and other securities, technologies, machines, equipment, licenses, loans, any other property or property rights, intellectual property invested in objects of entrepreneurial activity with the aim of obtaining profit (income) and achieving a positive economic and social effect .

Thus, a general feature of development as a type of human activity is a complex, "end-to-end" organization of the investment process, which involves the organization of financing.

and the implementation of any project by the developer within the given time and within the relevant budget restrictions in order to obtain a commercial benefit. They also say that development is the process of realizing the idea of a buyer/tenant or customer/owner/builder.

There is still no full analogue of the terms in the Ukrainian language "development" and "developer" - the words "development", "builder" "organizer" do not fully reflect the essence of development processes.

We will present the main definitions of the concepts that are most often used in this thesis, first of all: Developer is a legal or physical person that ensures the promotion (implementation) of the project, that receives profit from the creation of real estate objects, for which it acts as:

- the author of the project idea;
- the buyer of rights to a land plot for development;
- the organizer of the design of the object, the employer of the customer, the general contractor, brokers for the realization of the newly created object, who manage the real estate. All project participants must have appropriate licenses;

- finances himself or attracts the necessary investments.

Real estate, immovable property - land and other natural areas (subsoil plots, isolated water bodies, forests), other property attached to the land, firmly connected to it: buildings, structures, objects. Property, the use of which for its purpose and without harming its characteristics and valuable properties excludes its movement. Immovable property also includes air and sea vessels that are subject to state registration, inland navigation vessels, and space objects. By law, other property may be classified as immovable property

A project is a time-limited, purposeful change to an individual system with established requirements for cost and quality of results and a specific organization.

A development project is an investment project that involves a complex approach to managing its implementation. This concept is also used as an alternative to the so-called own project, i.e. project, which is carried out by the customer himself.

A development (management) company is a company (firm, enterprise) that comprehensively performs the functions of a developer (customer) on behalf of the customer-title holder (general customer, investor) at all phases of the project cycle: from market research and pre-investment studies to the completion of the project (introduction to operation), Output to design capacity, etc.).

Project management is the science and art of managing human and material resources during the life cycle of the project by applying modern methods and techniques to achieve the results defined in the project in terms of composition and scope of work, cost, time, quality and satisfaction of project participants.

Management company – a company specializing in professional management (companies, projects); The leading company can have its own production potential. This term can thus be used as one of the characteristics of a development company.

Project management is carried out through the implementation of established business processes, which can be defined as a set of interrelated procedures for the implementation of projects, the ultimate goal of which is to make a profit through the sale of products created by the project. Purpose of each of the business process is to offer the consumer products that satisfy him in terms of cost, service, quality and durability.

The main advantages of development, compared to traditional forms of organization of investment activity, are:

- full (especially financial) responsibility for the final results of investment activities;

- maximum integration of services/products;
- development of a specific organizational structure of stable business relations both at the production and management level;
- improvement of the financial results of activities due to the reduction of financial and other risks, as well as the transition from a cost (estimate) approach to project budgeting. Objectively, such an approach means a significant interest of the development company in reducing the cost of the project (as the only means of increasing its own profit);
- ensuring high quality of work due to increasing the professionalism of employees (and, as a result, reducing unproductive costs) through mandatory training in modern management methods and construction technology. Employees of development companies are "forced" to develop and implement the most modern quality management systems - which are primarily based on the requirements of the international quality standard. real construction cost management forms the basis of a modern management accounting system;
- objectively determined the need for a real start of the competitive system for selecting construction participants.

In order to realize the potential benefits of the new concept, development companies use a new strategy, the essence of which boils down to the following provisions:

- consolidation of production, management and financial and economic potentials of partner companies with a corresponding increase in responsibility for the consolidated financial results of the project;
- systematic use of project management methodology;
- transition to a project (project-matrix, divisional) structure with the creation of an institute of project managers who provide the final result in the form of finished objects;
- development of horizontal management systems with a reduction in hierarchy and simplification of the decision-making process;
- consolidation of profit as the main source of investment for the future; attraction of inexpensive equity and loan funds;
- ensuring a fairly high level of profitability on invested capital; implementation of the acquisition program (takeovers and mergers);
- development of the project management and financing system.

Development methods and tools allow:

- develop and substantiate the concept of development in relation to specific

tasks;

- evaluate the effectiveness of the project implemented on the basis of the development concept;
- prepare and implement the project at all phases of its life cycle;
- develop a rational financing scheme, as well as an estimate and project budget;
- form a team of performers;
- issue legal rights to the real estate object; organize handover and acceptance of the object;
- to organize effective management of the object and its sale.

The success of development activities is determined by a number of factors, including: the level of financial management;

relations with power structures;

knowledge of the market combined with professional "feel"; professionalism of the team;

innovative "courage" in all spheres of development activity - from the development of financial schemes to the technology of service maintenance of built objects.

The development project goes through the following stages during its development:

pre-project stage:

real estate market analysis, real estate selection, project strategy formation, investment analysis, registration of exit and permit documentation, attraction of credit and investment funds; design stage:

development of a financial scheme, organization of financing, formation of an architectural and engineering group, engagement of a broker who will sell the space, design management, conducting tenders for construction works;

construction stage:

management coordination construction works (supply of materials, engineering works), construction quality control and estimated costs; implementation stage:

marketing, realization of areas,

control over the operation of the building and the work of engineering systems after the construction is completed.

One of the important features of the development, compared to the traditional project management system, is the importance attached to the pre-investment phase of the development project. If, in the case of classic project management, the customer usually has a project concept or at least a vision of what he wants to implement (residential building, office building, industrial enterprise), then in the case of a development project in a broad sense, the customer most often expects from the Developer proposals - which project to implement in order to maximize future profits and minimize costs. That is why the analysis of the real estate market, the selection of the object, and in a broad sense the project is a significant stage.

The most important stages of the pre-project stage are market research and choosing the location of the future object. It is these stages that can affect the outcome of the project.

Market research should answer the following questions:

in which sector of the market there are unfilled niches now and whether they will remain in the future;

which object needs to be built;

what is the most likely level of sales prices for built-up areas; what is the project profitability forecast;

the level of competition in one or another segment; possible risks and ways to reduce them.

Market research allows you to determine the existing ratio of supply and demand in various segments of the real estate market and thus identify unfilled niches in which there is a shortage of certain areas. An analysis of sales prices and construction costs will reveal in which of these niches the implementation of the development project will be the most effective.

Much attention in the research should be paid to the forecasts of these indicators, since the market situation is dynamic. The research should also contain an analysis of competitors' activities, identifying their strengths and weaknesses, and characterize the overall level of competition in the selected market segment. Another important point is the analysis of existing risks and ways to reduce them.

The choice of time for project implementation should take into account such a regularity in the development of real estate markets as cyclicity. This is especially important for development, since the implementation of such projects lasts at least two to three years. Thus, the implementation of the project can begin at the moment when the market situation is favorable, and end during the period of recession. Therefore, recently in the West, one of the most common development theories has been followed: projects should be started at the moment when the market is at the lowest point of activity, but the first symptoms of revival have already appeared. Then by the time the project ends, the market will be close to peak activity.

The choice of location is one of the key points in the development of a development project. Everyone knows that it is easier to sell or lease a bad building in a good location than a good building in a bad location.

A famous aphorism of American developers says: "Value is determined by three factors: location, location and, finally, location."

The choice of the site must take into account many factors: the vibrancy of the place, the location of transport highways, the general image of the area, the prospects of selling or renting out the areas built on the given plot, the purpose and quality of the development of the adjacent plots, dimensions, topography, configuration of the plot, existing architectural restrictions, complexities laying of communications, zoning, options for use, soil condition, ecology.

For each specific project, the importance of certain location parameters may change. In order to clarify the importance of each item, the developer, when choosing a site, should determine how important the following details are for the business for which the building is intended: proximity to the consumer, client or

buyer, business partners, service personnel, residential areas, retail outlets, household service enterprises and public catering, transport highways, convenience of connection with stations and airports, standard of living in the area, the possibility of expansion for the company-tenant or buyer.

It should be noted that the task of choosing a land plot is often complicated by legal uncertainty. Often, legal entities that offer land plots do not have this right. In addition, these areas may be subject to regulations that prohibit certain types of use. Often, city administrative bodies demand additional compensation from the developer. The urban planning task does not contain a detailed description of the state of engineering communications in the district. As a result, the developer faces unexpected costs, and construction often becomes unprofitable. In order to avoid financial risks when choosing a site, careful, detailed studies of the territory are necessary, which should be carried out wisely with the involvement of relevant officials city services. On the basis of the available site analysis and market research, a functional concept of the object and a sketch project are developed, which are then considered from the point of view of their profitability.

The central issue of development is the organization of financing development projects.

In international practice, a set of methods and tools for financing investment projects has become widespread:

debt obligations in the form of securities (shares, bonds); various securities of international financial markets; various types of credit lines and bank loans;

different types of leasing; various guarantees;

obligations supported by direct guarantees of third parties; specific contracts (obligations) sale of future products;

structuring project financing based on subsidiaries, specialized branches, joint ventures, special project companies, trust firms and venture funds, strategic alliances, partnerships, etc.

International and regional financial and credit institutions, various multilateral development agencies and investment guarantee agencies, transnational and multinational corporations, transnational banks, large international insurance associations-syndicates, national.

governments, national (state or semi-state) agencies

export-import lending and insurance, as well as national creditors and institutional investors (financial and industrial groups, investment and pension funds, holdings, banks or their associations, financial, investment, insurance and leasing companies, venture capital funds and specially created ventures - targeted investors, etc.).

Various project financing schemes are used for the successful implementation of projects, such as:

"build - own - operate" (BOO = "Build, Own and Operate"), "build - operate - transfer ownership" (VIT = "Build, Operate and Transfer) combined schemes "construction - acquisition of ownership - operation - transfer of ownership rights and receipt of dividends" (BOOT = "Build, Own, Operate and Transfer"), as well as other financing schemes, in the process of implementation of which there is often a combination of financing with limited recourse and financing under government guarantees.

RISK MANAGEMENT SUBSYSTEM IN THE PROJECT

The activity of project management involves the management of four basic elements - resources, works, results, risks. In addition, project management has eight integral directions. Since project management is a practical embodiment of a systems approach, different areas of project management can be called subsystems of project management. These include:

content management;

managementduration; cost management;

quality management;
personnel management, or human resources management;
logistics management or resource (material) management;
communications management (information resources); risk management.

The implementation of project management within each subsystem consists in the creation of one or more control models (development phase) and the implementation of solutions embedded in these models (implementation phase). Models are tools that provide implementation and control processes. Based on the initial model, a model is built that reflects the actually achieved results. In the risk management subsystem, this is a risk tree and a decision tree.

Let's focus our attention on the risk management subsystem.

Project risk management is an activity aimed at optimizing the project's interaction with the external environment in order to minimize project deviations from previously set goals. Risk is the potential occurrence of an event that is the cause of the project, which leads to deviations from previously set goals and decisions. Risks arise at the boundary of the project with the external environment. Risk factors are always outside the scope of the project, even if the negative event itself turns out to be inside the project.

In the project development phase, risk management involves identifying risk factors, analyzing and quantifying them, and then building management models such as risk trees and decision trees. In the course of risk analysis, such methods are used as:

sensitivity analysis method; the Monte Carlo method;
method of formalized scenarios; method of expert risk assessment; decision tree method.

Then, based on the results, measures are planned to reduce the identified risks and thus increase the sustainability of the entire project.

In the implementation phase, if necessary, measures to reduce risks are implemented. In addition, the work of identifying, assessing and analyzing risks continues because the project environment is constantly in a state of change, and what used to represent stability can now appear as a source of uncertainty and risk.

Methods that allow you to reduce risks in project management include:

distribution/diversification of risks among project participants; risk transfer (eg insurance);

creation of reserves (internal insurance or maintenance) - if the organization implementing the project has sufficient funds, to compensate for possible damage from the occurrence of a risk event. For this, a reserve fund is created, which in the usual case is 15% of the project cost (depends on the essence of the project);

hedging – concluding term contracts and agreements taking into account possible changes in currency rates, prices, etc. The main tool in this case is futures and options. Futures contract – an agreement between the seller and the buyer of goods and financial assets and the Clearing House;

provision of guarantees - the implementation of large projects requires the involvement of loan capital, in connection with which the project owner must submit to the financial institution a written obligation of a third party to pay the debt in the event of the borrower's refusal to pay;

provision of pledges - project products can be a pledge when receiving a loan for the project. Pledge is carried out in the form of assignment of rights and in other ways with the help of a written agreement between the creditor and the borrower, in which the dependence between the terms, conditions of the loan and the pledged asset is detailed;

limiting - setting the limit for spending amounts (sales, credit, etc.). It is used by the project owner during the sale of project products on credit, by the investor - regarding the amounts invested in the project, by the bank - during the issuance of loans, during the conclusion of overdraft agreements, etc.

Risk management in modern projects occupies an exceptional position. The main trends in the development of the economy and project management significantly increase the importance of risk management.

The development and implementation of projects always takes place in conditions of some uncertainty due to:

incomplete knowledge of all parameters, circumstances, situations necessary to choose the optimal solution, the impossibility of adequate and accurate accounting of all, even available, information, and even the presence of probabilistic characteristics of the behavior of the environment;

factors that cannot be predicted and predicted even in a probabilistic implementation, i.e. factor of randomness;

subjective factors of resistance, when decisions are made in the situation of the game of partners with opposite or in some way not coincident interests. Thus, the implementation of the project is carried out in conditions of uncertainty and risks.

These two categories are interrelated.

Uncertainty - incompleteness or inaccuracy of information about the conditions of project implementation, including related costs and results. Uncertainty implies the presence of factors in which the results of actions are deterministic, and the degree of possible influence of these factors on the results is unknown.

Risk is a potential, numerically measurable possibility of adverse situations and their consequences as losses, losses, losses, for example, expected profit, income or property, funds due to uncertainty, i.e. with random changes in the conditions of economic activity, adverse, including force majeure, circumstances, a general drop in market prices; the possibility of obtaining an unpredictable result depending on the adopted business decision, action. Project risks are the degree of danger of unsuccessful implementation of the project, which is measured by the frequency and probability of occurrence of one or another level of losses.

Composition of risk:

event itself, probability, damage, source.

The probability of risks is the probability that losses will occur as a result of a risky event, i.e. the probability of an undesirable outcome. Probability in itself means the possibility of obtaining a certain result. There are two methods of determining the probability of undesirable events:

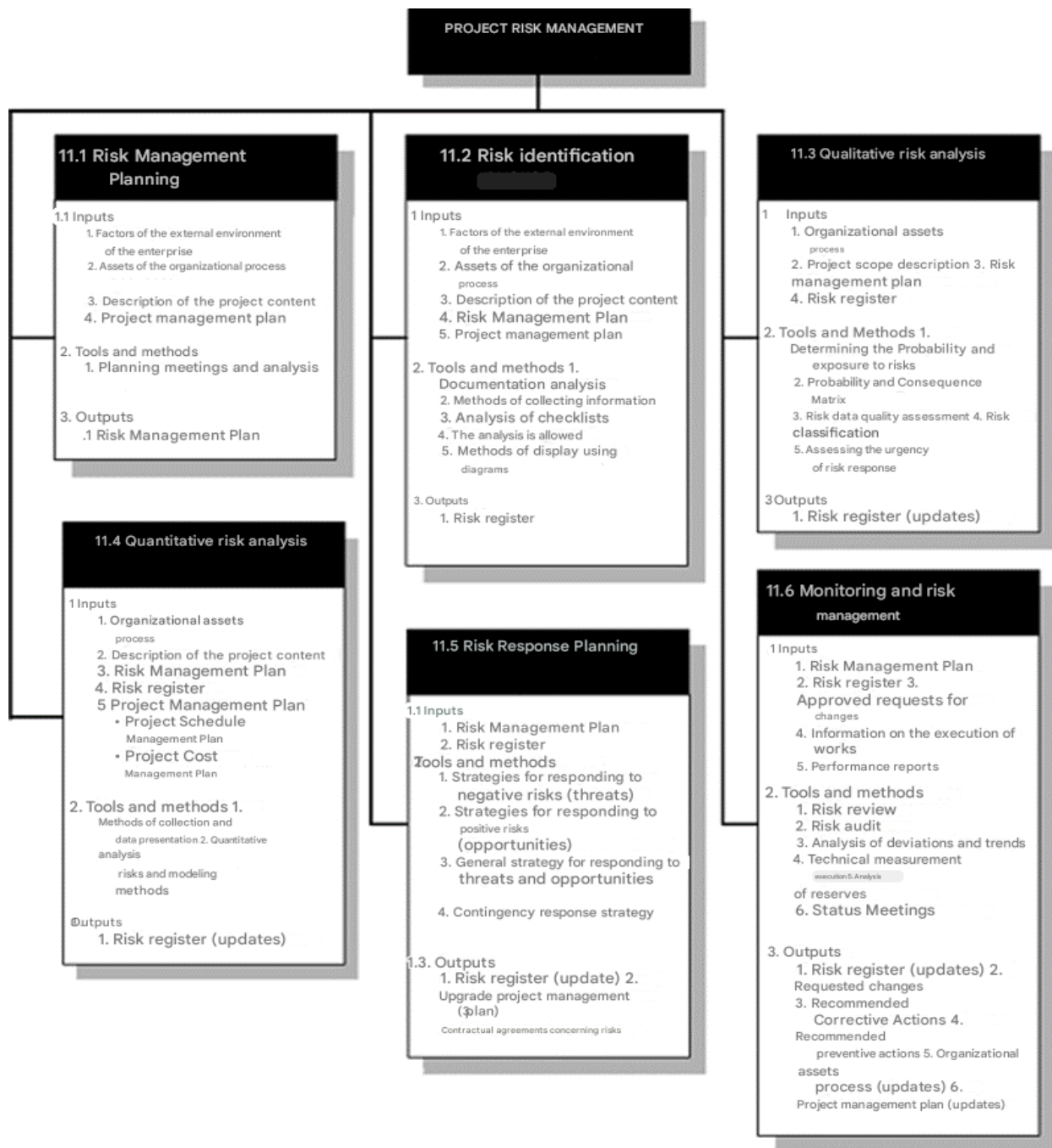
- 1) objective;
- 2) subjective.

An objective method of determining adverse events involves calculating the frequency with which a particular result was obtained under similar conditions. A subjective possibility is an assumption about a certain outcome. The subjective method of determining the probability of undesirable events is based on the judgment and personal experience of the entrepreneur. In this case, based on past experience and intuition, the entrepreneur needs to make a quantitative assumption about the probability of events.

The risk management subsystem can be divided into two parts:

- 1) analysis of project risks;
- 2) minimization of project risks.

The goals of project risk management are to increase the probability of occurrence and impact of favorable events and to reduce the probability of occurrence and impact of adverse events for the project. In fig. 1 shows a general diagram of project risk management processes.



Rice. 1. General scheme of project risk management

SPECIFIC RISKS IN THE DEVELOPMENT PROJECT

Implementation of any development project, as is known, is an operation that carries elements of risk. Real estate transactions are among the most risky business sectors. There are many reasons for this, but the most important features of the real estate market are locality, high dependence on the state of the

regional economy, long-term nature of investments, and low liquidity of goods on the market. Superimposed on high capital intensity real estate objects and a significant level of costs of real estate transactions, these circumstances place the problem of risk management in one of the first places in development. We can say that risk management is the quintessence of all management issues for entrepreneurship in the field of development. To manage risks, first of all, it is necessary to know the content (nature) of risks.

As you know, one of the characteristics of the real estate market is informational closure and uncertainty. In case of market uncertainty, investments in real estate are associated with the probability of incurring losses (a private case of risk). Therefore, risk assessment and analysis is a primary task when making investment management and strategic decisions. A timely and accurate assessment allows the investor to make balanced decisions and to reject deliberately unprofitable (scratched) ones, making his investments more stable in conditions of uncertainty of the economic environment.

All investors try to minimize risk and maximize profit. But at the same time, the lower the level of risk, the lower the possibility of obtaining high profits. The dependence between these factors is directly proportional, but it is impossible to avoid risk in principle, since there is no zero level. Therefore, the entrepreneur's task, according to risk theory, is not to minimize risk in its pure form, but to find the optimal ratio between the level of risk of the decision made and the profitability of its result.

In real estate transactions, the risk may be:

at a lower than previously planned price during the sale of real estate; in higher-than-anticipated levels of operating expenses during managementreal estate;
in the reduction of the actual profitability of the investment project compared to the design one;
in the loss of property - both in connection with the destruction of the "body" of real estate itself, and due to the loss of rights to real estate, etc.

The scale of such risks can be very different: from the loss of income or part of it to the complete loss of invested funds or property.

What causes risks? A presentation about this can give a general classification of risks, according to which it is possible to distinguish:

market risks (business risks, commercial risks) associated with the specifics of the field of business activity and the impact of macroeconomic and regional factors on it;

production (business) risks that belong to the firm level and are determined by the quality of its activity;

financial risks, as determined by the general state of the financial system in the country, and arise in connection with the company (firm) making certain decisions regarding the financing of its activities.

When investing in real estate for an investor, three are always undesirable things:

unplanned outflow of credit funds and/or customers;

decrease in net profit;

decrease in the market value of the building, as business

Theoretically, these events are independent, i.e. each of them can arise in the absence of others and, assuming a wide scale, lead to bankruptcy. In fact, one event leads to another.

So, at the top level there are three types of risks - one for each bad event. However, for making important management decisions, such a simple classification is not enough, it needs to be detailed.

In the case of significant risk factors when investing in real estate can be divided into internal and external. Internal risk factors arise as a result of the investor's activities and depend on the nature of the investment. These factors include, in particular:

inefficient structure of assets, liabilities, equity of the investor;

ineffective strategies and policies, including incorrect assessments of the

size and degree of risks, erroneous decisions, incorrect determination of investment terms and terms, lack of proper control over costs and losses, etc.;

insufficient professionalism of the investor;

unsatisfactory provision of information, financial and other security of the investor;

the possibility of failure in computer systems, loss of documents, untimely and incorrect accounting transactions (especially for institutional investors);

lack of a full guarantee against abuse and fraud by the investor's employees (especially for institutional investors).

External factors (sources) of risks are potentially unfavorable phenomena that are in the external environment and depend on the activities of investors. These factors include:

political;social; legal;

general economic and financial;

competitive (pressure from other financial market participants);

informative;

natural disasters, as well as robberies, accidents, fires, etc. The level (degree) of risks is determined by three concepts:

Full risk - involves losses equal to or equal to investments. Investors in a burned-out building would be exposed to such risks in the absence of insurance.

Moderate risk - corresponds to the loss of a small (up to 30%) part of the amount spent by the investor on "entering the project"/acquiring the building.

Low risk - allows the investor to get a high or acceptable profit with practically no losses.

In the real estate market, in connection with the complex nature of real estate (each real estate object has a physical, legal and economic definition), the high dependence on the state of the regional economy, the problem of risks becomes especially important, so without exaggeration we can say: risk management - the quintessence of all real estate market issues.

According to the nature of real estate, the peculiarities of the real estate market, various factors can be the reasons causing risks - legal, technological,

urban planning, administrative, economic.

Accordingly, the following types of risks can be distinguished according to their nature:

legal: the possibility of loss of ownership, the impossibility of compensation for losses due to errors during the conclusion of agreements and contracts, the possibility of third-party claims, undetected encumbrances of the object, etc.;

technological and urban planning: the wrong choice of the place of implementation of the project, its inconsistency with the surrounding buildings, errors in constructive solutions, the wrong choice of materials and the inaccurate definition of the planning of the object, etc. As a rule, associated with insufficient detail elaboration of the development project, the weakness of its technical expertise. This category of risks also includes technological risks, which are largely determined by the specifics of the place where the projects are implemented. When making decisions about the development of a real estate object, accounting for technological risks is particularly important;

administrative: opportunity changes in the tax regime, the emergence of new requirements regarding the fulfillment of obligations to city authorities, the introduction of restrictions on the functional use of buildings, etc.;

economic and organizational and economic: incorrect macroeconomic forecast and regional economic development forecast, errors in forecasting supply and demand in the market, incorrect assessment of the competitive environment, choosing an inappropriate organizational form during project implementation, etc.

Specificity of the economic and legal turnover of real estate, multi-stage real estate transactions require special attention to the legal area of transactions.

This is especially important in conditions where the formation of the legislative framework for real estate transactions has not yet been completed, regulatory documents often contradict each other, the composition of the transferred rights to real estate is not always precisely defined when conducting

transactions, and the system of registration of real estate rights and the transfer of these rights is poorly developed. As the experience of the formation of the real estate market in Ukraine shows, the low level of legal analysis when conducting transactions, the impossibility of obtaining complete information about the legal status of real estate and the rights of third parties often cause the appearance of subsequent claims to transactions, lawsuits.

Thorough legal research, cooperation with insurance companies will reduce the likelihood of these risks, prevent a significant part of them.

Urban planning and technological risks, as a rule, are associated with insufficiently detailed elaboration of real estate development projects, weakness of technical examination of objects. To a large extent, technological risks are determined by the specifics of the place of project implementation.

Administrative risks are of particular importance in the conditions. There are rare cases when, during the implementation of projects, the conditions required by local governments or the federal government change significantly, such as the tax regime, requirements for the fulfillment of obligations regarding the development of urban infrastructure, etc. Therefore, at the stage of obtaining permits for construction, reconstruction or redevelopment, it is very important to achieve a precise definition of the obligations that must be fulfilled by the organizer of the investment project and their documentary confirmation.

Insufficient attention to the study of the state, trends and prospects of market development significantly increases the probability of risk.

All types of risks have a financial dimension, either increasing the costs of the project or leading to exceeding the planned deadlines. The difference in the composition of risks dominating the primary and secondary real estate markets is very significant: if technological and economic risks are more important for the primary market, legal risks are significantly more important and characteristic for the secondary market.

If we turn to the development activity in the real estate market, then we can say that the development business is an area of increased risk.

The problem of risks is of particular importance for development. First of all, the allocation of development into a special type of professional activity is a way to reduce risks arising in the field of real estate development. After all, nothing prevents the owner of the land or building from organizing construction or reconstruction. But the fact is that the organization of the investment process in real estate is such a multifaceted problem that it requires the involvement of specialists for implementation.

The following risks are of particular importance for development projects (at various stages of project implementation):

risks of incorrect assessment of the state and trends of supply and demand in the real estate market in general and for its various types. Associated with possible fluctuations in the supply-demand system. As opposed to this to market risks, experts suggest concluding long-term lease agreements, diversifying the portfolio, as well as investing in high-class elite real estate. It is these methods that can help potential investors protect themselves from market risks;

design risks In this case, we are not talking about the technological, but the market aspect of design risks - a discrepancy between design solutions (architectural and planning solutions, materials used) and the expectations of potential buyers (violation of the ratio "price - quality - consumer");

financing risks This type of risk is especially dangerous in the current economic situation - during the crisis period. The instability of the financial condition of enterprises, private individuals, and banks in modern conditions often leads to the fact that participants in construction financing are unable to withstand the stress of the entire period of project implementation: banks refuse to continue lending under already concluded contracts, shareholders are unable to adhere to the payment schedule, etc. . The same dangers, albeit to a lesser extent, are inherent in countries with a more stable economy. Among the many financial risks, we can single out risks whose probability can be reduced with the help of thorough legal research, cooperation with insurance companies:

the risk of unbalanced liquidity - losses that may occur in a situation when the investor is forced to attract additional funds at a higher interest rate than usual to ensure the liquidity of the objects, market risk - possible losses from fluctuations in the market value of objects, including the formed assets of the investor, currency risk - investor losses as a result of currency exchange rate fluctuations, risk of not receiving profit (risk of lost financial benefit) - a possible decrease in net profit due to a sudden change in legislation, economic conditions, other external or internal factors, insolvency risk - losses arising as a result of the market's reaction to the investor's activity, interest rate risk - losses from the impact of market interest rate movements on profit and capital, operational risk - losses associated with errors and other violations during operations, The risk of inflation is the least dangerous. In this sense, work with objects under construction is unique. The more intensively the prices creep up, the greater the gap between the market and investment value, and therefore the greater the benefit for the investor;

contracting risks Quite often during the implementation of investment projects, the developer is faced with exceeding the deadlines for project implementation, insufficiently high quality of work, overestimation of actual costs compared to design costs. In our conditions: high inflation, the collapse of the construction complex, a rapid increase in the price of building materials, etc. These factors overlap and mutually reinforce each other: exceeding construction deadlines sharply increases costs and often leads to the failure of projects or, in this case, to a drop in profitability to a minimum level;

implementation risks. There are rare cases when, due to the wrong choice of pricing policy, the lack of active promotion of the object on the market, the implementation period is delayed for several months, or even years, which leads to the freezing of invested funds and even direct losses related to operating costs, which developer before sale of the object;

Legal risks that are of particular importance in our conditions. There are rare cases when, during the implementation of projects, the conditions required by local government bodies change significantly (tax regime, requirements for the

fulfillment of obligations regarding the development of urban infrastructure, conditions for connection to engineering networks, etc.). You can protect yourself from them by personally participating in the development of laws, as well as by being a member of any trade union associations. It is very important at the stage of obtaining permits for construction, reconstruction, replanning, etc., seek to accurately define the obligations that must be fulfilled by the organizer of the investment project, and their documentary confirmation;

Sectoral risks. If real estate depreciates for any reason in a certain area, the investor faces regional risks. They are quite formidable if they apply territorial diversification of their business, i.e. invest money in real estate of different regions and even countries.

Planning risk refers to the situation in which the building under construction is located on disputed territory. For example, it may turn out that it is included in a nature conservation zone or a branch is planned to be laid in this place. The risk can be completely overcome if all planning details are agreed with the authorities in detail before the start of the project.

Accepting the main part of the risks, the developer must calculate the probability of their occurrence, take all possible measures to minimize them, predict possible options for actions when turning a potential risk into reality.

Methods that allow minimizing risks include such as:
combination of different sources and methods of financing (partial participation, bank loans, "in-kind financing" by contracting organizations) to prevent funding disruptions;
holding bids, tenders, contests during contractor elections;
conclusion of direct long-term agreements with suppliers of construction materials;
insurance during construction contracts;
involvement of specialized brokerage firms or creation of subsidiary firms specializing in the implementation of the projects being created, etc.

Nevertheless, the development experience in Ukraine shows that the underestimation of possible risks, the lack of a risk management system is one of the most important reasons for the failure of the implementation of real estate development projects.

Good knowledge of administrative procedures related to the implementation of investment projects, accounting for the specifics of the regional real estate market are important for the effective organization of development activities.

Different types of risks in development are interrelated. For example, currency risk can be considered a type of market risk. The possibility of a sudden change in legislation creates simultaneously the risk of missed financial benefits and currency risk (indirectly through the impact on the national currency rate). Such different in strength and nature of the relationship complicate the analysis and control of investment risks. The ranking of risks in the order of importance for a specific investor is determined by the amount of possible losses and depends on his specialization, nature of activity, market segment and other individual characteristics.

CONCLUSIONS FROM CHAPTER 1

Development is an effective conductor of new market ideas in the investment complex and is characterized by such features as comprehensive responsibility for the final results of work, maximum integration of services/products, improvement of financial results, ensuring high quality of work.

But this area is very closely related to such a concept as risk, especially in the era of economic crisis. The most important features of the real estate market are locality, high dependence on the state of the regional economy, long-term nature of investments, low liquidity of the product on the market. Superimposed on

the high capital intensity of the objects real estate and a significant level of costs of real estate transactions, these circumstances place the problem of the occurrence of risk events in one of the first places in development. And here, risk management comes to the aid of developers - a specific area of management that requires knowledge in the field of theory of the insurance company, analysis of the economic activity of the enterprise, mathematical methods of optimizing economic tasks, etc. market economy system.

Risks in the field of development have a rather specific nature - these are contracting risks, design risks, and legal risks related to ownership, encumbrances, etc.

SECTION 2

ANALYSIS OF THE ACTIVITIES OF "AKRON MANAGEMENT" LLC GENERAL INFORMATION ABOUT THE ORGANIZATION

AKRON GROUP represents the group of companies engaged in investments in real estate, established in 1995.

AKRON GROUP develops, acquires and manages office and logistics buildings, as well as shopping centers in Eastern and Western Europe.

AKRON GROUP offers institutional investors and affluent private clients high returns on real estate income.

The Ukrainian branch of AKRON GROUP (AKRON Management LLC) was opened in Kyiv at the beginning of 2008. The company is at the beginning of its journey, at the stage of development, work on strengthening its position in Kyiv and the regions is in full swing.

Brief information about the company is given in the table. 1.

Table 1

Brief information about the AKRON GROUP group of companies

Year and place of establishment of the company	1995, Vienna
Start of activity in Ukraine	2008
Number of countries of presence	8
Number of offices	10
Number of projects in the portfolio	57

The main principles of the company are:

focusing on commercial real estate. AKRON GROUP manages office buildings, logistics centers and shopping centers in the Netherlands, Austria, Hungary, Poland, Germany, Ukraine, while simultaneously exploring new markets in Western, Central and Eastern Europe.

increase in value. The company, which was founded by Günter Kloemüller and Christian Thalhammer in 1995, is today one of Austria's largest private equity groups involved in commercial real estate management. Since 1995, the company's assets have grown 200 times.

investment flexibility. Institutional investors and private investors can invest capital in open-end, closed-end or special investment funds depending on private priorities and the availability of investment opportunities. The minimum investment for private investors is 200,000 euros.

high profitability with visible risks. AKRON GROUP realizes fairly high profitability of projects with small risks. More than 50 properties with a total value of €1.1 billion are currently under management.

portfolio management at the highest level. AKRON GROUP

focuses on the highest quality properties in key locations. Effective property management ensures that homes remain modern, with optimal tenancy structures to maximize value.

At the moment, the company is present in eight countries of Western and Eastern Europe:

Austria Germany Hungary, the Netherlands, Poland, Ukraine, Croatia

Countries for future investment are also considered: Belgium, Bulgaria, the Czech Republic, Romania, Slovenia, Slovakia, Serbia, the exit to which was postponed due to the economic crisis.

The following principles form the basis of the company's philosophy:

Financial success as a foundation. Financial success ensures the viability of AKRON GROUP and thus is seen as value and shared fairly among investors, management, employees and others.

Commitment to professional activity. Management members are permitted and encouraged to participate directly in the AKRON GROUP. Thus, they invest part of their own capital and participate in the company's activities themselves.

Implementation as a guarantor of outstanding work. The growth of quality at AKRON GROUP is based on the personal development of each person in the company. The result is outstanding work that goes far beyond professional competence and technical and organizational abilities.

Team spirit. Our collaboration and team spirit is based on our mutual respect for each other and our different roles within the team. The feeling of loyalty also plays a big role in AKRON GROUP. Balance as the highest order. Only a reliable balance between business and private life ensures long-term use of available resources. Preservation of the physical and spiritual health of each person is our concern.

Heredity breeds trust. Competent professional activity led to the highest incomes. A legacy that has grown from a combination of solid valuation and high returns and led to trust, makes our relationships with clients develop into long-term cooperation.

For AKRON GROUP, the phrase "business social responsibility" is not an empty sound - the organization constantly participates in socially significant projects, for example:

Betonsalon. In 2005, the Bétonsalon project was created as an initiative of Georg Leinter, curator and art funding consultant, and the AKRON GROUP as a project to promote highly gifted, contemporary artists who are mostly young and unknown. AKRON GROUP participates in art previews four times a year as a major sponsor.

The best future for "Butterfly Children". As part of a long-standing tradition, AKRON GROUP will once again participate in the Children's Support Project in 2007.

People for people. In 2006, AKRON GROUP promoted a school project in Ethiopia. €50,000 in funding was provided to the People for People project in Ethiopia. Also in 2005 €25,000 was provided for a school project in Tibet.

Donations for flood relief. In 2005, two donations of €5,000 were made to flood victims. In 2003, more than 3,000 € were donated to the Gerasdorf district, which was affected by the flood.

Bienenhaus Therapy Center. €4,000 has been donated to the Bienenhaus therapy center for affected children's villages since 1997. The general management of the company is carried out by AKRON GROUP partners: Günter Kloemüller (Chairman of the Supervisory Board)

Christian Thalhammer founded the AKRON GROUP together with Günter Kloemüller in 1995. Today he is the Chairman of the Management Board of AKRON GROUP. At the beginning of his career, he worked as a personal secretary to the Austrian Minister of Transport and Industry. After five years as commercial director of Alcatel Austria, Christian Thalhammer started working in real estate in 1992 as a shareholder and Chairman of the Board of Getina Immobilien Management AG (Austria).

Stefan Ausch. Before starting work at AKRON GROUP in 2003, Stefan Ausch gained enormous experience in the development of exclusive residential and first-class office centers in Austria and Hungary. Having successfully worked in the field of commercial real estate in various countries of Central and Eastern Europe for 10 years, Stefan Ausch currently heads AKRON's work in Central and Eastern Europe.

Roman Schmidt. Roman Schmidt joined the AKRON GROUP in 1998, following his position as a consultant manager in the automotive industry. As financial director, Roman Schmidt heads all financial and administrative activities of AKRON GROUP.

Stefan Ausch and Roman Schmidt form the Management Board of AKRON Development Opportunities CEE I AG, whose actions are monitored by the Supervisory Board headed by Christian Thalhammer. The board of AKRON

Development Opportunities has appointed the company AKRON Services BV responsible for the operational and commercial management of the activity, based on the agreement for the provision of management services. AKRON Management CEE GmbH or its representative offices in various countries (on the basis of management service agreements) have been appointed responsible for the acquisition, management and management of development projects.

In general, the structure of AKRON GROUP activities can be presented in fig. 2:



Rice. 2. Structure of AKRON GROUP activity

The management structure of the enterprise is presented in fig. 3.



Rice. 3. Management structure of the group of companies

Let's list the main products of the company:

open investment fund. AKRON GROUP currently operates two public property management companies with a total value of approximately €400 million.

AKRON Investment BV invests capital mainly in the Netherlands and owns a portfolio of 18 properties. Expansion of the presence in Belgium is planned for the near future.

AKRON Investment CEE NV - a large part of investments in Poland and Hungary with 11 objects.

Both private and institutional investors can participate in these publicly traded real estate companies with an investment of 200,000 euros or more.

Closed-end investment fund In cooperation with AIB (Allied Irish Banks), closed-end investment funds with property in the Netherlands have been launched for the private investment of wealthy AIB clients in Ireland. These funds are designed with the wishes of Irish investors in mind from a tax and commercial perspective. So far, three of these funds with a total value of approximately 100 million Euros have been placed. AKRON GROUP structures closed-end investment funds for Dutch private investors under the brand name AKRONNED. In February 2006, AKRONNED VIII was closed.

Closed special funds. Closed-end special funds are created according to the wishes of investors in terms of taxation, risk and income. AKRON GROUP manages these closed-end special funds with investments in the Netherlands, Poland, Germany and Austria for international private investors.

The complete list of current investment products of the company is presented in Fig. 4.

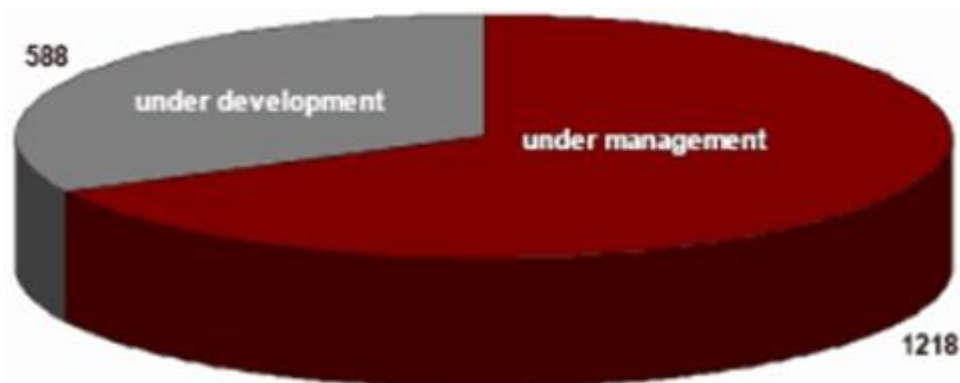
Products	Description	Objects	Volume in e million
AKRON Investment B.V.	Open-ended fund with investments in Holland	20	232
AKRON Investment CEE II B.V.	Open-ended fund with investments in CEE	8	500
PB Netherlands I-III (joint venture with Allied Irish Banks)	Closed-end fund with investments in Holland	2	22
Harbor CV (joint venture with Allied Irish Banks)	Closed-end fund with investments in Holland	3	40
MP Monumenten N.V. (joint venture with Allied Irish Banks)	Closed-end fund with investments in Holland	1	50
AkronNed IV-VIII	Closed-end fund with investments in Holland	11	96
Special funds	Closed-end fund with investments in the Netherlands, Poland, Germany and Austria	12	278,5
Total		57	1218,5

Rice. 4. Current investment products of AKRON GROUP

Page break

Regarding financial performance - depending on the risk profile, AKRON GROUP achieved an internal rate of return (IRR) of 9% to 50%. The structure of AKRON's activity follows two directions - investments in ready-made real estate and development.

In Western Europe, AKRON's main activity is investing in ready-made real estate, in Eastern Europe there are still areas for development and the bet is on development, the ratio of these two activities is presented in fig. 5.



Rice. 5. Ratio of investment and development (million euros)

Appendix 1 shows the turnover and balance sheet of AKRON Management LLC for 2008, the analysis of which leads to the conclusion that the company is at the stage of its formation and 2008 did not bring it outstanding financial results. The amount of undistributed profit at the end of the period is about 37 million. It was formed by concluded contracts for the management of real estate objects and for the management of the development project "Zaporizka, 3". The expenditure part is much more, which is related to the beginning of the company's operation - a contract for the lease of an office with an area of 550 sq.m. related to direct activity, etc.

AKRON GROUP's corporate communications are structured as follows: Internal communications:

Using the latest IT technologies to create a single communication space for all AKRON GROUP offices. The company uses an intra-corporate network, corporate e-mail, a video conference system, various integration software products Manhattan ILS, Braintribe, etc.

Weekly meetings. Weekly meetings of management staff and project teams are held to discuss work issues, prioritize activities, and provide feedback.

Corporate internal events. Once a year, all employees are invited to the AKRON GROUP international meeting, which takes place in different European cities every year. In a pleasant atmosphere, AKRON GROUP management presents the vision, business goals and events within the company. In addition, team-building and informal interaction of employees are also an important part of the agenda.

External communications:

Obligation. AKRON GROUP has been successfully developing for 14 years. Customers, partners and employees contribute to this success together. This is the reason why the partners decided to give a part of the profit to the society.

Thus, AKRON GROUP supports charitable projects such as the association "People for People", which provides aid in Ethiopia; project "Butterfly Children" and a school project in Tibet. AKRON GROUP also supports young talented artists.

Activities Near AKRON GROUP regularly holds exclusive events with social projects.

PR and mass media / AKRON GROUP standards all requests for interviews by local journalists are sent to the Corporate Communications department for approval.

Corporate Department communications must be informed in case of any local events.

Any media articles mentioning AKRON GROUP should be sent to the Corporate Communications Department.

The Department of Corporate Communications conducts a review of competitors. Standard communication tools:

Corporate the language is English. All important documents must be translated.

To create documents it is necessary to use templates (presentations, letters, etc.).

ANALYSIS OF RISK MANAGEMENT ACTIVITIES IN THE ORGANIZATION

In conditions of economic instability and unpredictability, the largest share of risks is borne by organizations that perform the functions of customers (investors), since they assess the market situation at their own peril and risk, determine the objects of capital investment and organize investment and construction activity. Organizations need calculate the probability of risks, predict them, plan and implement all possible measures for their prevention and minimization, in the ideal case - until their complete elimination.

At AKRON Management LLC, the risk management subsystem is in its infancy, just like the company. The risks of the project are monitored before entering into this or that development project. When choosing a project, technical, financial and legal due diligence is carried out, after which and a proper assessment of all risks, the top management makes a decision - to enter the project or not. Later, at the

stage of detailed project development and implementation, the project manager is responsible for risk management. But, as a rule, project managers do not have enough time for proper risk management and it has a more intuitive, "more ephemeral" character.

In general, the level of maturity of the risk management system in LLCs is now "AKRON Management", like the entire project management system, can be identified as "initial". At this level in the organization, processes usually do not have the necessary stability. The technology and methodology of the processes are not defined and are subject to situational changes and adjustments. The success of the project depends entirely on the personal abilities of the project manager and the dedication of the project team members. But even strong leaders and teams cannot withstand the pressures of randomness and disorder, and the flaws in the processes that arise from them. In such a situation, the use of effective organizational decisions regarding processes will be impossible due to the lack of clear management skills of the organization. Process productivity, like calendar schedules, budgets, and project results, is unpredictable. Performance of work depends on personal abilities of employees, their professionalism, knowledge, experience and motivation. A general characteristic of the organization is the lack of stability in the technology of work performance and project management.

CHARACTERISTIC PROJECT

At the moment, the main development project in Kyiv for AKRON Management LLC is the business center project on Sadova-Kudrynska Street (see Appendix 2 for a presentation of the project). The facility is located in a prestigious location in the immediate vicinity of the Palac Sportu metro station. For AKRON GROUP, this project is "image" - it is a kind of door to enter the local market.

The project consists of a historic building to be renovated and a new building planned for construction. The entire complex with an area of 26,000 m² consists of office space, a retail area, restaurants and an underground car park. The total

building area is 25,660 square meters. m., including:

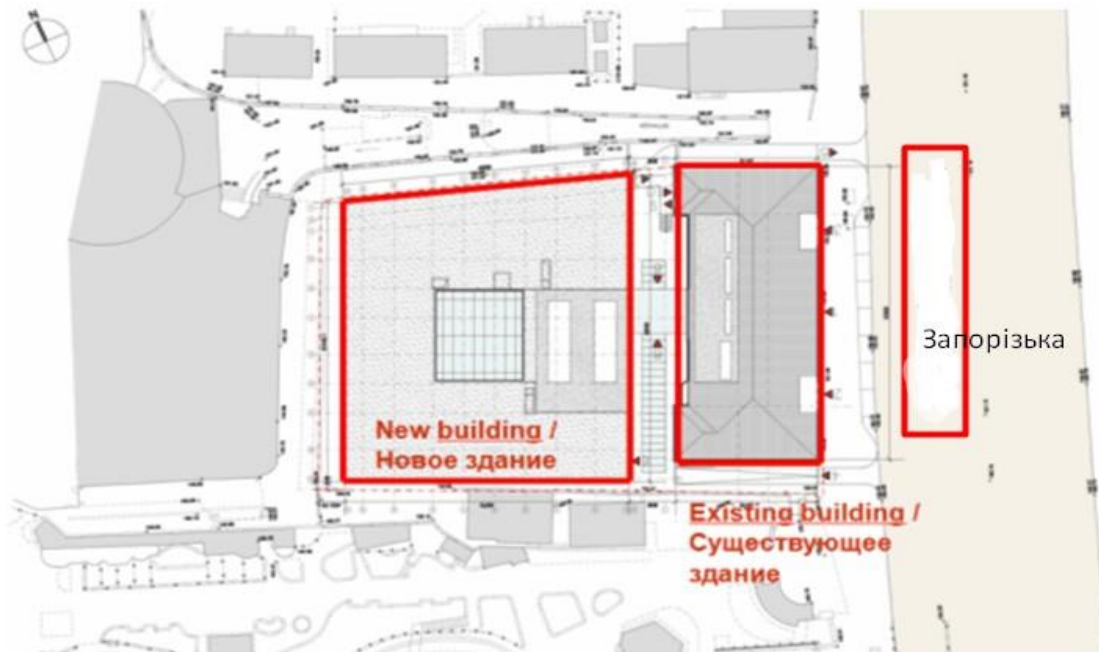
The building, which is being regenerated (according to the Permitted Land Use Act - АПИ) - 20,450 sq.m., 4 floors, with an underground (four-level) parking lot of 277m/m.

The building, which is being restored according to (according to АПИ) - 5,210 sq.m. 3-storey.

The nature of the building and equipment standards is consistent with the level of quality for International Class A buildings. The leased space will be provided to the tenants "unfurnished".

On the north side of the historic building is a high-rise residential building approximately 7 stories high. Between this object and the historic building, along its northern border, there is a flyover leading to the planetarium, located to the west of the object.

The site plan is shown in fig. 6.



A typical floor plan is shown in fig. 7.



Rice. 7. Typical floor plan

The organization of retail space is expedient in the existing building on the first and minus first floors. To improve the configuration of the retail space, it is recommended to consider the possibility of arranging arches in the load-bearing walls. When placing office spaces on the 2nd and 3rd floors of the old building, it is necessary to provide access to the sales area for office employees inside the building. Office premises in the existing building are expected to be located on the second and third floors, the total area of office premises will be about 1,900 square meters. m. The organization of warehouses in the existing building is not expedient.

In the new building, it will be appropriate to place the so-called infrastructural trade of a service orientation, which makes the stay of office tenants more comfortable: press, cafe, beauty salon, travel agency, dry cleaning, etc. Larger retail formats may not be in demand by tenants, since the visibility of the new Object from the main traffic and pedestrian flows - the Garden Ring, in fact, is

absent, thus the circle of potential buyers will be limited only to employees of the office part, which will make trade in the complex for others category stores is unprofitable.

The list of areas planned in the architectural concept by purpose is given in the table. 2.

level	function	Basis ARl (m2)	ARl area (m2)	net floor area (m2)	Population
OLD BUILDING					
0	Canteen / Lobby	1050	1.050,0	884,2	250
Under ground			1.050,0	884,2	
1	Restaurant / Shop		1.100,0	972,5	140
2	Office		1.100,0	994,6	80
3	Office		1.100,0	994,6	80
4	HVAC		55,0	55,0	
Above ground			4160	3.355,8	3.016,7
Old building total		5210	4.405,8	3.900,9	550
NEW BUILDING					
-3	Parking		2.823,0	2.760,0	
-2	Parking		2.823,0	2.760,0	
-1	Parking		2.831,0	2.762,5	
0	Office / Lobby		2.447,0	2.277,2	145
Under ground			11400	10.924,8	10.559,7
1	Office		2.100,0	1.955,1	180
2	Office		2.364,0	2.263,6	215
3	Office		2.364,0	2.263,7	215
4	Office		2.364,0	2.263,7	215
5	Office / HVAC		1.985,0	1.892,8	175
Above ground			9050	11.177,8	10.638,7
New building total		20450	22.191,8	21.198,3	1145
Total, old and new		25660	26.506,00	25.099,2	2.145

List of areas according to their intended purpose

The status of the project and the list of works performed by the previous Customer can be viewed in Appendix 3. In less than a year of project management, AKRON Management LLC achieved:

The concept of the office center was completely redesigned together with the Austrian architectural company Zechner&Zechner and the Colliers branch, the localization of the project was organized;

Adaptation of project documentation was organized. The set of new project documentation is 25% ready.

A new project budget, schedule and financial model were developed. A new team of main performers was formed - the general designer was replaced, the designer for the restoration part was chosen, and the technical customers were replaced. AKRON involved technical operation and building management consultants in the

project.

Project management, budgeting and project reporting procedures have been fully implemented.

The work on changing the ARI and other source-permit documentation was organized.

The accounting and financial accounting of the project company was fully restored and organized at a new level. The Developer's organization is prepared for the audit in accordance with European standards.

The site is completely prepared for construction (all communications have been removed from the building site, old buildings in the yard have been demolished, the site is fenced).

The project "Zaporizka, 3" is a very difficult project to implement, which is confirmed by the problems faced by the previous Developer. The problems are connected, first of all, with the building being restored, which is a recognized architectural monument, an object of cultural heritage. Also, numerous problems arose over time with the issuance of various administrative documents of the city of Kyiv, limiting the construction of administrative complexes in the center of Kyiv, etc.

Pre-project studies began back in 2004, and only after AKRON Management LLC joined the project in early 2008 did the matter move from a standstill.

CONCLUSIONS FROM CHAPTER 2

"AKRON Management" LLC, engaged in development and investment activities, is a "daughter" of the AKRON Group, which has been on the market for a long time, and is a young, dynamically developing organization. At the moment, the main, "pilot" development project is the "A" class office complex "Zaporizka, 3", located on the Garden Ring. The project includes two buildings - the first, which is a historical monument and is subject to restoration, and the second - a newly constructed building.

"AKRON Management" LLC is a project-oriented organization, since its main activity is the implementation of development projects, where the main features of project management can be traced.

As for the risk management system, project management in this area is in its infancy, as is the company itself. This activity is mainly carried out when deciding whether to acquire a project or not. In the process of project development and implementation, it is implicitly entrusted to the project manager, who often simply does not have enough time physically to perform this task. Thus, the entire management system projects is not worked out from the point of view of planning the duration and labor costs, which can lead to serious losses during the implementation of the project, and possibly the collapse of the entire project.

During my internship, I discovered the following significant facts in the company's work that affect the progress of the project:

lack of a clear division of duties between employees of the organization;

Irregularity of project management processes related to the initial stage of the organization's development. Risk management rules and procedures are also not documented. For experienced employees, this is not a problem, as they have extensive experience in construction, development, and real estate investment. But such practices create unfavorable conditions for new, inexperienced employees and allow them to learn on the job;

Irregular working day of employees of the organization. A similar situation is typical for most development companies in general, and especially for those who are just starting their journey in real estate;

The absence of a professional employee who is responsible for project risk management, which can lead to serious losses for the organization. Risk management functions are implicitly assigned to the project manager and are perceived as a "burden" to the main activity. In this field, it performs a purely advisory function. That is, responsibility for risk management is a delegated function, there are no clear provisions regarding the responsibility of members of the top executive management in the company;

Risk tolerance principles are not formulated; One gets the impression that they change depending on the situation;

The terms "risk" and "risk management" are used at meetings of the Board of Directors or meetings in the project only in connection with the loss incurred;

Information relating to risk management and risk management activities is shared with those who need to know;

For management, risk management is a complex of unpleasant restrictions and costs imposed from the outside;

absenceconstant monitoring of legislation in the field of construction, real estate, investments;

Bureaucracy and mistrust in relations with the main partner-co-investor for all development projects - LLC "Ukrprombank-Invest", which creates significant delays in communication, most often misunderstandings, shifting of responsibilities and, as a result, prolongs the project implementation period;

These bottlenecks in the project management system of AKRON Management LLC, and in particular risk management, require serious elaboration and planning.

CHAPTER 3.

DEVELOPMENT OF RECOMMENDATIONS FOR RISK MANAGEMENT IN A DEVELOPMENT PROJECT

On the basis of the problems identified in the second section, the following recommendations can be offered for the management of development project risks:
When entering a development project, conduct due diligence (expertise) of the project;

Appointment of a person responsible for the performance of risk management functions.

Constant monitoring of legislation in the field of construction, real estate, development, tracking of updates and immediate response in case of need.

Compilation, regulation and compliance with the ongoing project risk management process.

Weekly project meetings must focus on project risk management.

Inclusion of all members of the project team in the risk management process (according to their areas of responsibility).

Continuous improvement a complex of risk management methods.

These measures will be considered in more detail in point 3.8 of the diploma project.

And now we will consider the pre-investment stage of the Zaporizhzhya 3 project using the project management methodology.

DEVELOPMENT OF THE SUBJECT FIELD OF THE PROJECT

For further processing, we will take the pre-investment stage of the development project "Zaporizka, 3" - before the beginning construction and assembly works. The development of the subject area of the project includes the definition of the goals and tasks of the project, and even the composition of the works necessary for

their implementation. The most important direction in the development of the project management model is the qualitative analysis of the initial data, the necessary determination of the list of individual works, the implementation of which will allow to achieve the desired result.

The main goal of the pre-investment stage of the development project is complete readiness for the start of construction and installation works - this is the availability of all the necessary initial permit and design documentation, and a signed contract with the general contractor, and preparation for construction, etc.

An accessible and often used practical method of identifying individual works is the construction of a structural decomposition of works (SDR) in the project.

At the lower level of the decomposition, a list of single works is presented, which should be used as a basis for further design - in this case, it is the fourth level of the SPR.

PROJECT TEAM PLANNING

At the pre-investment stage, the structure of functions of the main participants of the project can be presented in the form of four main functional blocks:

the Customer's block, represented by two management companies – LLC "AKRON Management" and "Ukrprombank-Invest" LLC (they act as investors); control unit works throughout the complex, represented by the technical customer of the construction LLC "ProektKomplex" and the general designer of KyivProekt-2, workshop No. 5;

the restoration control unit, represented by the technical customer for the building of STS Engineering LLC, which is being restored, and the designer of TSYGI LLC;

consulting unit represented by the Zechner&Zechner architectural bureau, which developed the architectural concept of the project, and two consultants for the technical operation of the building: LLC "EDS" and Sawatzky Property

Management.

The formed coordinated project team is a huge achievement of the LLC "AKRON Management", it consists of high-class specialists and organizations with an excellent reputation and vast experience. All functions are clearly divided in the team, restoration, which has become the "weak point" of the project, is allocated to a separate block, etc. The overall success of the project depends on the effectiveness of the project team. And this team creates an ideal and very reliable foundation for the project.

For the distribution of work by responsible performers, we will compile a matrix for the distribution of administrative management tasks. The RAZU matrix allows you to reasonably divide the functions and tasks of the project team members, as well as calculate the workload of the project team members based on it.

To determine the significance of each symbol of the RAZU matrix, it is necessary to construct a symbol preference matrix (Table 3), which allows you to determine the comparative (relative) weight of each symbol. The comparison takes place as follows: the numbers "0", "1" or "2" (that is, less better, equivalent, better) are assigned to each two cells of the matrix in the comparison of two symbols. When comparing the symbol

Table 3

Character Preference Matrix

	Я	Х	К	О	М	Т	С	А	!	Р	П	И	Σ	Voi*	%
Я	1	2	1	2	2	1	2	2	0	2	1	1	17	0,118	12
Х	0	1	0	0	1	0	2	2	0	1	0	0	7	0,049	5
К	1	2	1	1	2	1	2	1	1	2	1	1	16	0,111	11
О	0	2	1	1	2	1	1	2	1	2	2	1	16	0,111	11
М	0	1	0	0	1	0	1	1	1	1	0	1	7	0,049	5
Т	1	2	1	1	2	1	2	1	0	1	1	1	14	0,097	10
С	0	0	0	1	1	0	1	0	0	1	0	0	4	0,028	3
А	0	0	1	0	1	1	2	1	0	1	0	1	8	0,056	5
!	2	2	1	1	1	2	2	2	1	2	1	1	18	0,125	12
Р	0	1	0	0	1	1	1	1	0	1	0	1	7	0,049	5
П	1	2	1	0	2	1	2	2	1	2	1	1	16	0,111	11
И	1	2	1	1	1	1	2	1	1	1	1	1	14	0,097	10
Σ	7	17	8	8	17	10	20	16	6	17	8	10	144	1,000	100

Now let's determine the coefficient labor intensity of management tasks according to the following formula (table 5):

$$St_i = K_{ti} * \sum V_{ti}. \text{ Table 5}$$

Coefficients of labor intensity management tasks

	K _{ti}	∑V _{ti}	C _{ti}
1	0,203	80,6%	16,315
2	0,544	81,9%	44,603
3	0,203	90,3%	18,284
4	0,544	81,9%	44,603
5	0,785	88,9%	69,761
6	0,544	101,4%	55,186
7	0,203	80,6%	16,315
8	0,722	84,7%	61,129
9	0,203	80,6%	16,315
10	0,646	97,9%	63,212
11	0,063	79,9%	5,055
12	0,418	110,4%	46,123
13	0,544	113,2%	61,612
14	0,316	110,4%	34,942
15	0,848	105,6%	89,522
16	0,063	105,6%	6,681
17	0,418	125,7%	52,505
18	0,911	81,9%	74,684
19	0,646	91,7%	59,177
20	0,646	87,5%	56,487

21	1,000	91,7%	91,667
22	0,949	104,2%	98,892
23	0,975	93,1%	90,700
24	0,785	107,6%	84,476
25	0,848	106,3%	90,111
26	0,544	94,4%	51,406
27	0,203	80,6%	16,315
28	0,316	106,3%	33,623
29	0,418	106,3%	44,383
30	0,063	101,4%	6,417
31	0,911	91,7%	83,544
32	0,418	91,7%	38,291
33	0,418	93,1%	38,871
34	0,316	85,4%	27,031
35	0,203	86,8%	17,581
36	0,722	93,1%	67,141
37	0,063	91,7%	5,802
38	0,722	99,3%	71,651
39	0,063	75,7%	4,791
40	0,848	75,7%	64,197

C_{ti} = 1936

The next stage of calculations is to determine the workload of officials and structural divisions (Table 6):

$$S_{tj} = V_{tj} * \sum K_{ti}$$

Table 6

The workload of officials and structural units

	Kti	Vtj	Ctj		Kti	Vtj	Ctj
1	0,203	29,2%	5,91	1	0,203	20,8%	4,22
2	0,544	29,2%	15,88	2	0,544	9,7%	5,29
3	0,203	29,2%	5,91	3	0,203	20,8%	4,22
4	0,544	29,2%	15,88	4	0,544	9,7%	5,29
5	0,785	29,2%	22,89	5	0,785	9,7%	7,63
6	0,544	29,2%	15,88	6	0,544		0,00
7	0,203	29,2%	5,91	7	0,203	20,8%	4,22
8	0,722	29,2%	21,04	8	0,722	9,7%	7,01
9	0,203	29,2%	5,91	9	0,203	20,8%	4,22
10	0,646	29,2%	18,83	10	0,646	20,8%	13,45
11	0,063	17,4%	1,10	11	0,063	9,7%	0,62
12	0,418	20,8%	8,70	12	0,418	14,6%	6,09
13	0,544	29,2%	15,88	13	0,544	20,8%	11,34
14	0,316	29,2%	9,23	14	0,316	14,6%	4,61
15	0,848	29,2%	24,74	15	0,848	20,8%	17,67
16	0,063	29,2%	1,85	16	0,063	20,8%	1,32
17	0,418	22,9%	9,57	17	0,418	20,8%	8,70
18	0,911	29,2%	26,58	18	0,911	9,7%	8,86
19	0,646	29,2%	18,83	19	0,646	9,7%	6,28
20	0,646	33,3%	21,52	20	0,646	9,7%	6,28
21	1,000	29,2%	29,17	21	1,000	9,7%	9,72
22	0,949	29,2%	27,69	22	0,949	14,6%	13,84

23	0,975	29,2%	28,43	23	0,975	9,7%	9,48
24	0,785	29,2%	22,89	24	0,785	14,6%	11,45
25	0,848	29,2%	24,74	25	0,848	20,8%	17,67
26	0,544	29,2%	15,88	26	0,544	9,7%	5,29
27	0,203	29,2%	5,91	27	0,203	20,8%	4,22
28	0,316	29,2%	9,23	28	0,316	9,7%	3,08
29	0,418	29,2%	12,18	29	0,418	9,7%	4,06
30	0,063	29,2%	1,85	30	0,063	9,7%	0,62
31	0,911	29,2%	26,58	31	0,911	9,7%	8,86
32	0,418	29,2%	12,18	32	0,418	20,8%	8,70
33	0,418	29,2%	12,18	33	0,418	9,7%	4,06
34	0,316	29,2%	9,23	34	0,316	9,7%	3,08
35	0,203	29,2%	5,91	35	0,203	20,8%	4,22
36	0,722	29,2%	21,04	36	0,722	20,8%	15,03
37	0,063	29,2%	1,85	37	0,063	9,7%	0,62
38	0,722	29,2%	21,04	38	0,722	14,6%	10,52
39	0,063	29,2%	1,85	39	0,063	20,8%	1,32
40	0,848	29,2%	24,74	40	0,848	20,8%	17,67
Ct =		586,57		Ct =		280,82	

Thus, the most loaded structural unit in this project
– project manager.

PROJECT DEVELOPMENT BY TEMPORARY PARAMETERS

To determine the technological interrelationship between works, we will use the methods of structural decomposition of works and forming estimates of the duration of works. Below is Table 7, which displays individual jobs and their duration, which is determined by the expert method:

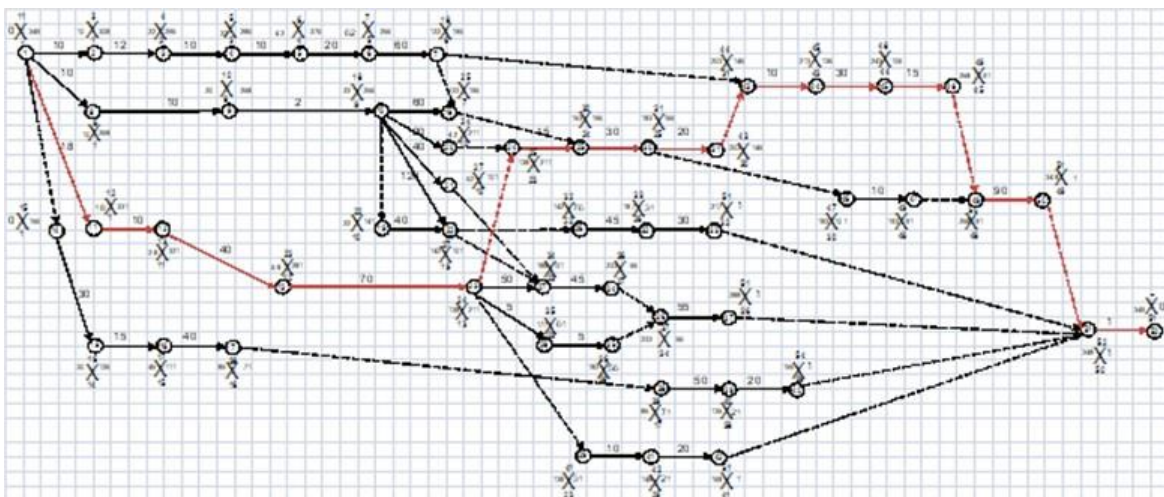
$$t_{nv} = [3 * t_{opt} + 2 * t_{pes}] / 5,$$

where t_{pes} is the maximum allowable time for performing ij work, t_{opt} is the minimum allowable time for performing ij work, t_{nv} is the most probable time for performing ij work.

Estimation of the duration of work on the project Next, we will make a work schedule taking into account the duration of the work and their dependence. We will calculate the critical path using potentials (see Fig. 8).

According to the calculations, we get 1 critical path, the duration of each is 348 days.

For the calendar planning of work on the project, we will use the Microsoft Project software product and build a Gantt chart.



Rice. 8. Network graph calculated by the method of potentials

PROJECT COST PLANNING

The cost of entry into the project for AKRON Group was \$13,000,000.

The expenditure item of the budget for its implementation is \$63,421,696. Also, the estimated cost of replacing the federal share is \$22,000,000.

That is, the total required investment amount (without financing costs) is \$98,421,696. Of them, the equity participation of two investors will amount to \$42,000,000, the remaining funds (\$56,421,696) will be raised through a bank

loan.

The profitable part of the budget as lease payments is presented in Table 7.

Rent Income/Net Area:			
	sqm (incl. Add on)	rent/m ² \$	income p.y.
Retail I	473,76 m ²	\$1 400	\$663 264
Office I	2 877,06 m ²	\$1 680	\$4 833 454
Restaurant I	1 221,25 m ²	\$673	\$822 388
Office II (without Level)	10 685,04 m ²	\$1 680	\$17 950 867
Office II: 5th Level	1 248,00 m ²	\$1 680	\$2 096 640
Parking (places) II	191	\$3 759	\$717 969
total income p.y.			\$27 084 583

Annual income for the project

The payback period of the project is 11 years, the calculation of net discounted income for the 12th year is given in Table 8 (discount rate 16%).

Table 8

годы	Pt	ICt	Pt - ICt	1/(1+d) ^t	NPV
1		25 000,00	-25 000,00	0,862069	-21 551,72
2		42 000,00	-42 000,00	0,743163	-31 212,84
3		31 400,00	-31 400,00	0,640658	-20 116,65
4	27 100,00	500,00	26 600,00	0,552291	14 690,94
5	27 100,00	500,00	26 600,00	0,476113	12 664,61
6	27 100,00	500,00	26 600,00	0,410442	10 917,76
7	27 100,00	500,00	26 600,00	0,35383	9 411,87
8	27 100,00	500,00	26 600,00	0,305025	8 113,68
9	27 100,00	500,00	26 600,00	0,262953	6 994,55
10	27 100,00	500,00	26 600,00	0,226684	6 029,78
11	27 100,00	500,00	26 600,00	0,195417	5 198,09
				Итого	1 140,06

Calculation of the net discounted income for the project, thousand \$

PROJECT QUALITY PLANNING

An important subsystem of project management is quality management, which allows you to control the process of development and creation of the project product, thereby performing input, current and output control of products to meet anticipated needs. In this case, by the product of the project we mean a complex of buildings ready for operation (renovated and newly constructed premises).

The main aspects of quality for this project will be: Compliance of the project with European office standards of class "A" -

characterized by high quality processing and engineering, automated life support systems, underground parking, high level of service, convenient location. This class involves modern free planning, expensive decoration, suspended ceilings and much more.

High occupancy of areas, and therefore, compliance of project results with market needs and expectations.

Conformity of the performed works to the current norms and the developed project documentation.

The quality of material and technical support of the project.

To ensure quality control during the implementation of the project, it is necessary to provide:

Mandatory compliance of the composition and content of all works with current standards (DSTU, SNI Pam, etc., for example, DSTU 24369-86 "Objects of standardization in construction. General provisions", DSTU 23838-89 "Enterprise buildings. Parameters", ST REV 1407-7 Reliability of building structures and foundations.

Load and influence. ", BNiP 12-03-2001 "Occupational safety in construction", etc.), as well as European office standards of class "A".

Approval of documentation with state bodies must be carried out within the framework of current legislation (Decree of the Government of Ukraine "On the procedure for organizing and conducting state examination of design documentation and engineering survey results"; Decree of the Mayor of Kyiv on the unified procedure for pre-design and project preparation of construction in the city of Kyiv"; Resolution of the Government of Kyiv "On simplifying the process of coordination of project documentation in the organization of construction"; etc.). Implementation by authorized representatives of the customer organization of ongoing monitoring of compliance with the requirements set forth in clause 1 and making comments in case of non-compliance.

Current control must be carried out at least once a week and according to the results of completed stages of work, and in the case of the work of specialists of the performing organization on site, current control is ensured by the mandatory and constant presence of representatives of the customer, regardless of the terms, frequency and types of work.

Prescriptions specified in para. 1-3 provisions in the contracts between the customer and implementing organizations.

PLANNING OF COMMUNICATIONS IN THE PROJECT

Communications management is an important aspect of project management. In combination with the distribution of administrative management tasks and the planning of administrative resources, the communication management system allows you to design a single project management system within the framework of specific activities under the development project using the design of a document flow model, which allows you to visually present the system of interaction between project participants.

The most effective way to display the communications system in the project is the

design of the so-called information technology model (ITM). This is a model of project management processes, containing a standardized description of the procedure and conditions for solving managerial tasks for the project, which clearly defines which structural unit (or a specific official), in what terms and under what conditions solves certain tasks and is responsible for their performance

The development and implementation of ITM ensures:

creation of conditions in the management system in which the intermediate production results reliably ensured the final result;

the sequence of performing the necessary project management tasks and determining the conditions for their solution;

objective and scientific conditions of the project management process and excludes subjective factors;

clear division and specialization of labor;

coordination of solving interdependent project management tasks; optimal interaction with the external environment;

addressing specific documents to individual subsystems; standardization of techniques and methods of solving similar tasks;

definition of labor intensity and assessment of the quality of solved tasks; organization of motivation of project management participants

To build information technology model, it is necessary to prepare an information table in advance.

As a result, an information-technological model of project management based on a visual display of works, their performers, and the interaction of these performers allows to analyze the performance of all targeted management functions.

PROJECT RISK MANAGEMENT AT THE DEVELOPMENT STAGE IDENTIFICATION OF THE RISKS OF THE "Zaporizhka, 3" PROJECT

To identify the risks of the Zaporizhka, 3 project, we will build a hierarchical structure of risks that helps classify them

The main risks of the project are the delay in the preparation and obtaining of the initial permit documentation (especially the Act of permitted use of the land plot and the Resolution of the Government of Kyiv), the delay in the preparation and approval of the project documentation, as well as various risks associated with the investment contract - its non-renewal,

disagreement by the Academy named after All these risks can lead to a shift in the start of building construction and restoration, and accordingly adjust the construction plans. This can affect the delay in the implementation of the entire project, thereby leading to a decrease in profit and a lengthening of the financing period.

QUALITATIVE AND QUANTITATIVE ANALYSIS OF PROJECT RISKS

"Zaporizka, 3"

To analyze the risks of the project, we will use the method of qualitative risk assessment

– "Rose" (star) of risks. To do this, we will conduct a point assessment of risks (from 1 to 10 points) and build a rose of risks (Fig. 9):

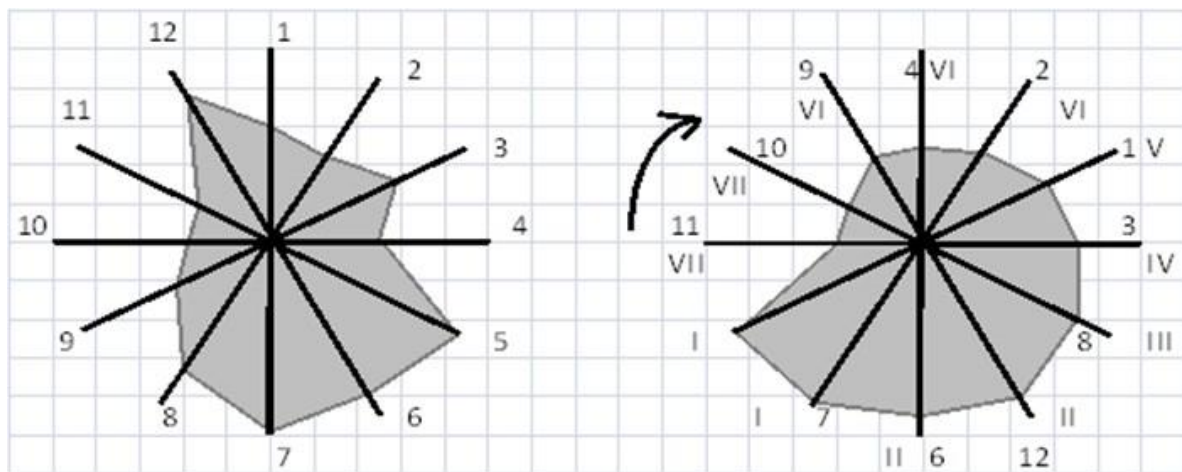
Design and coordination risks – 6, Market conditions – 5,

Contractual risks - 7, Legislative risks - 5, Obtaining IRD - 10,

Adherence to the time frame of the project - 9, Investment contract - 10, Financing - 8,

Ratingproject-5, Planning – 4,

Communications, team motivation - 4, Adherence to the cost framework of the



project - 9.

Rice. 9. The rose of risks of the project "Zaporizka, 3"

It is possible to distinguish three main priority groups of negative moments (risks) that can affect the profitability of investments

Risks of the implementation of the project "Zaporizka, 3"

The significance of risks is estimated by the following formula: $WK = 2/[K*(f+1)]$.

It is assumed that the first priority group is 5 times heavier than

the last one, that is, $f = 5$. Thus, the specific weight of the group with the lowest priority (that is, $K = 3$) is found as follows:

$$W3 = 2/(3 * (5 + 1)) = 0.1111.$$

It follows from this:

$$W1 = 5 * W3 = 0.5555; W2 = 0.3333.$$

In this regard, we can come to the disappointing conclusion that the specific weight of each risk from the first priority group will be 0.1389; the specific weight of risks

from the second priority group will be equal to 0.1111; the remaining five risks are 0.0222.

The opinions of three experts were used to assess the probability of occurrence of risks (Table 9).

Риск	Мнения экспертов			Вероятность
	А	В	С	
S1	30	40	35	35
S2	60	65	75	67
S3	50	65	70	62
S4	30	50	45	42
S5	25	30	35	30
S6	30	20	40	30
S7	55	70	50	58
S8	30	25	30	28
S9	50	65	75	63
S10	20	15	30	22
S11	30	50	45	42
S12	30	25	10	22

Assessment of the probability of occurrence of risks, %

Риск	Удельный вес	Вероятность	Балл
S1	0,1389	35	4,8615
S2	0,1389	67	9,3063
S3	0,1389	62	8,6118
S4	0,1389	42	5,8338
S5	0,1111	30	3,3330
S6	0,1111	30	3,3330
S7	0,1111	58	6,4438
S8	0,0222	28	0,6216
S9	0,0222	63	1,3986
S10	0,0222	22	0,4884
S11	0,0222	42	0,9324
S12	0,0222	22	0,4884
Итого:			45,6526

The overall assessment of project risks looks like this (Table 10):

Project risk assessment

On the basis of these data, it can be concluded that it is impossible to assess with a high degree of accuracy whether the risk will occur or not, although in general the level of risk does not exceed the value of 46%, which indicates the small influence of risk factors and allows us to say that the project depends to a lesser extent from the occurrence of risk factors. However, it is considered appropriate to develop a certain strategy of anti-risk measures for those risk factors that are the most real. Thus, five risk events come under our attention:

The risks involved with the implementation of the investment agreement, Risks associated with obtaining the IRD (delays, etc.), Compliance with the project's time frame, Observance of valuable project framework, design risks and coordination.

For now, we will use the quantitative method of risk analysis - sensitivity analysis. First, it is necessary to determine the rating of project factors that are subject to risks.

Rating of project factors that are checked for risks Now it is necessary to determine and build a matrix of indicators of sensitivity and predictability of variables in the project (with the help of an expert determination of the degree of sensitivity on the "high-low" scale):

Indicators of sensitivity and predictability of variables

Project sensitivity matrix to risks

Therefore, factors that are subject to detailed examination fall into zone I:

Loan interest

Sales volume (leased space). Zone II includes:

inflation index,

The price is possible project implementation, Investment costs.

And, finally, to group III, we attribute the factors that are the least exposed to risks, in the case of delayed payments.

DEVELOPMENT OF MEASURES TO REDUCE PROJECT RISKS

"Zaporizka, 3"

Based on the data obtained as a result of qualitative and quantitative risk analysis, several risks fell into the zone of our special attention.

We will try to analyze them and give recommendations on reducing the negative consequences of these risks on the development project:

Risks associated with the execution of the investment contract. Execution of the investment agreement and replacement of the federal share is a rather risky and massive burden on the project. At this stage of the project, there is a tripartite investment agreement - between the customer organization, the Academy named after Sechenov and the Federal Property Management Agency, which must be continued. On the basis of this contract, 5,000 sq. from the newly constructed building will belong to the state. But there is an internal agreement that the client organization will acquire ownership of another building (not in the center of Kyiv), carry out its capital repairs and transfer ownership, thereby replacing the state share. If the share is not replaced, the implementation of the project becomes unprofitable for the client organization and puts the entire project at risk. Investors, entering the project, were aware of the possible consequences of the occurrence of this risky event.

A possible way to solve the problem is written confirmation reached agreements and establishment of "informal" relations with the authorities.

Risks associated with obtaining an IRD (delays, etc.). Unfortunately, these risks are quite typical during the implementation of development projects in Ukraine.

Special attention should be paid here to the extension of the ARI for the issuance of the PPM and the signing of the land lease agreement. It should be noted that these risks are associated with internal delays in the system of external project participants and may be the object of management by the client organization. It is in this category of risk that the principle of interaction can have an informal

character, provoking. The only real way to protect yourself from data is to foresee possible additional costs in the expenditure part of the budget, as well as to create additional time reserves.

Adherence to the time frame of the project. This type of risk is quite difficult to avoid even for the implementation of short-term and simple projects, and even more so - for the implementation of development projects. Measures that can reduce the probability of a risk event: holding weekly project meetings to control the deadlines for the implementation of the tasks set before the participants, applying the mastered scope method in the project implementation process, using various software products to track the implementation deadlines (including Microsoft Project) etc.

Adherence to the cost framework of the project. As the practice of implementation of development projects shows, in connection with the rapidly changing environment, the costs of pre-project, design, construction and installation work, materials, and consulting services may increase. On the other hand, the change in the cost of these works performed by the involved organizations under the contract may be related to the internal needs of these organizations for an additional increase in income. In the construction industry, such points are related

Traditionally, with the fact that large construction companies implementing several projects, as a rule, involve proven organizations with which they already had a positive experience of cooperation. These organizations, taking advantage of this, often in the process of cooperation overestimate the cost of such works (knowing that the tender will not be held and there is no one to compete with). At the same time, the customer agrees to the following conditions, since the search new organization will be more costly. To prevent the occurrence of such risky situations, it is necessary to take into account the presence of a fixed price when signing subcontracts. If this is not possible, the main task is to minimize the consequences of risks associated with an increase in the cost of these works. For this, it is necessary to foresee in advance a reserve fund of funds, which can be used in the event of an increase in prices. At the stage of project development, it is

necessary to pay special attention to project cost planning, to work out the budget in as much detail as possible. Also, during the entire life cycle of the project, it is necessary to monitor the entire cost part of the project, apply, for example, the method of mastered volume of cost control, analyze the reasons for price increases, etc.

Problems with financing. To minimize this type of risk, it is necessary to combine different types of financing - equity participation, bank loans, "in-kind financing" - to prevent funding disruptions.

Contractual risks These include, for example, the unsatisfactory quality of work performed by organizations under the contract and the timing of work. Unfortunately, this is a common problem in the development industry. The reason for its appearance is cooperation with little-known partner companies that undertake work under the contract without having sufficient experience. It is necessary to take a more responsible approach to the selection of contractor organizations - to hold tenders, auctions, competitions. The main criterion in the selection of candidates should not be cheapness and clearly underestimated terms of work, but her experience in this field and the recommendations of this organization, able to substantiate her competence. Insurance is another effective tool for minimizing risks, for example, when concluding a general contract.

Design and alignment risks. This risk largely echoes the risks of obtaining an IRD and is associated with internal delays in the system of external project participants and can be an object of management by the customer organization. As a result of the occurrence of this type of risk event, bribery may occur. It is impossible for a construction company to insure against this, since the local, regional and federal authorities with which it cooperates may exert certain pressure, expressed in the delay in the preparation and coordination of documents, etc. The only real way to protect yourself from such "situations" is to foresee in the estimate possible additional costs associated with finalizing the project documentation.

Legal risks. A very serious problem, to say the least "trouble", within the framework of legislation, is "flow of laws". This term has taken root in legal

practice. The emergence of new and changes to existing regulatory acts at the federal or regional level not only cause additional burdens from one or another aspect of the design of development projects, but sometimes force to make drastic changes to the project documentation or even go through the same approval stages again, but already according to a new principle or other organizations. In this case, the only way to protect yourself from negative consequences is to work on the prompt detection of changes in legislation and the regulatory framework with the aim of the fastest adaptation to new changes. A person responsible for tracking changes must be appointed.

Loan interest rate fluctuations. This type of risk is especially relevant during the financial crisis. It is quite difficult to predict, but it is possible to insure. When implementing the project, it is desirable to combine the funds involved, for example, bank loans and equity participation of investors.

Sales volume (leased space). In this case, special attention should be paid to marketing research at the stage of project development and the creation of an architectural concept of the project, in which the most profitable use of the territory should be provided. Recently, special attention of investors has been attracted by multi-functional complexes, in which areas of various functional purposes are provided. In the process of project implementation, it is necessary to pay attention to its positioning and advertising support. During the crisis, the conclusion of leases with a floating rental rate, which depends on the profit received by the tenant, became popular, which is an effective tool for reducing the percentage of vacant space.

PROJECT PROPOSALS FOR THE IMPLEMENTATION OF THE RISK MANAGEMENT PROCESS OF A DEVELOPMENT PROJECT

As already mentioned, the risks of the development project are quite specific and can cause deplorable results up to the failure of the project implementation.

To avoid this, it is necessary to follow the following algorithm of actions:

When entering a development project, conduct due diligence (expertise) of the project with the involvement of external specialist organizations in this specific field:

Financial and tax, technical,

Legal.

This is followed by the appointment of a person responsible for performing risk management functions. Since there is no full-time "risk manager" unit in the structure of "AKRON Management" LLC, and its introduction will significantly increase the payroll, a responsible person should be appointed from the existing project team. It turned out that the 4th and 5th places in terms of the workload of officials during the implementation of the project are respectively occupied by the Technical Customer from the entire complex of works (ProjectComplex) and the Technical Customer from the restoration project (STS). These specialists, firstly, have sufficient capacity to perform this function, and secondly, they have sufficient experience and knowledge in the field of obtaining various approvals, which is the main risk area for the project "Zaporizka, 3". Their main task will be to organize a permanent and continuous project risk management process at all stages of its life cycle and involve all members of the project team in this process.

All risk information flows to the project manager, and he, in turn, is responsible for its transfer to the project's Board of Directors.

Constant monitoring of legislation in the field of construction, real estate, development, tracking of updates and immediate response in case of need.

Compilation, regulation and compliance with the ongoing project risk management process: For each specific project, drawing up a risk management plan (as a result of meetings, brainstorming).

Identification of risks (the result is a hierarchical structure of risks).

Qualitative risk analysis, the result of which will be an updated risk register.

Quantitative risk analysis resulting in an updated risk register:

Risk response planning, the main output of which will be an updated risk management plan:

a list of risks that the organization avoids; the list of risks that the organization reduces; the list of risks that the organization transfers; the list of risks that the organization accepts;

management methods applied to the risks being accepted; management techniques applied to the risks transferred; a plan of preventive measures with the allocation of relevant risks;

assessment of costs associated with the implementation of the selected management method (for all types of risks);

the magnitude of the effect from the application of the selected management method;

distribution of losses (the value of the probability of occurrence of losses and the possible amount of losses) before the implementation of the recommended measures and after their implementation;

a list of measures and methods of covering possible losses of the organization.

Monitoring and risk management, the main result of which will be a list of recommended corrective and preventive actions.

Defining the principles of risk tolerance that meet the goals and resources of the project, as well as the expectations of the members of the Board of Directors for the project.

Weekly project meetings must focus on project risk management. Inclusion of all members of the project team in the risk management process (according to their areas of responsibility). Paying special attention to the following aspects that may cause risk events for the development project:

issues of ownership, encumbrance of the project,

updates in legislation that may cause risk events to occur,

availability of source-permit documentation,

deadlines for obtaining various source-permit documentation and approvals,

financial aspects of project implementation, marketing research of the real estate market, etc.

Setting the upper threshold, limit on amounts and types of risks that LLC "AKRON Management" is ready to admit or save (that is, cover for the formation of self-insurance funds).

Constant improvement of the set of risk management methods. The result of these measures should be the provision of such risk management, in which the main activities under the project will be carried out with high stability and reliability from internal and external types of risks.

EFFECTIVENESS OF PROJECT PROPOSALS ON RISK MANAGEMENT OF THE DEVELOPMENT PROJECT

The evaluation of the effectiveness of the application of this or that method of risk management depends on the criterion that is the basis of the comparison. There are two most widely used approaches to developing criteria:

selection of a critical parameter, which must exceed the permissible limits; economic profit.

The first approach is closely related to compliance with the established norms and ensuring the sustainability of the enterprise. Within this approach, various risk management measures are evaluated on the assumption that they reduce the level of the critical parameter to the required value.

Purely financial mechanisms, such as insurance and self-insurance, are primarily aimed at compensating the consequences of adverse events. Comparing them with other risk management methods is possible if a certain financial parameter is chosen as a criterion, for example, the maximum amount of losses that leads to the destruction of the enterprise.

The enterprise can get economic profit due to increasing the level of its own security. Here, too, various options for organizing risk management activities are evaluated according to the same principle as investment projects: first, the costs are determined, and then the absolute profit or rate of profit per unit of costs is determined. The security level achieved in this case does not play a special role, it is determined by the most economically advantageous option selected.

Application of any of the risk management methods leads to redistribution of current and expected financial flows within the enterprise or financial project. For example, in the case of insurance, a part of one's own funds is diverted to pay insurance premiums, as a result of which the project is underinvested and the profit is lost. On the other hand, there is an expected inflow of funds in the form of compensation for losses in the event of an insured event.

The redistribution of financial flows leads to a change in the value of the net assets of the enterprise or project, calculated taking into account the expected cash inflows. Thus, the criterion of economic efficiency of the application of risk management methods can be used to evaluate their impact on the change in the value of the enterprise, calculated at the beginning and end of the financial period. For an investment project, the criterion is the influence of risk management methods on the change in the net present value of the project.

Investment project risks are accounted for as part of the discount rate for equity capital, which is used to calculate the project's net present value (NPV - net present value). Insurance reduces risk, thereby lowering the discount rate and increasing the NPV. On the other hand, insurance involves additional costs for the payment of the insurance premium during the project implementation period, which lead to a decrease in the project's profit.

The resulting effect of these two opposing factors leads to either an increase or a decrease in NPV, allowing us to judge the effectiveness of the insurance application.

However, investors can demand to reduce the risks of the project to the necessary limits. In this case, the starting point for evaluating the effectiveness of risk management methods will be a comparison of the costs of their implementation under the condition of ensuring the same level of risk.

In practical terms, for a comparative assessment of the effectiveness of different risk management methods, you can use the method of their pairwise comparison and then build a hierarchy of results based on the application of selected criteria.

We will analyze the effectiveness of the proposed risk reduction measures and project proposals for risk management using the example of 3 identified risks for the project:

increase in loan interest, decrease in sales volume,

the risk associated with the execution of the investment contract.

If the loan interest rate increases by 5 points, the discount rate will increase to 21 points. And then the financial flow under the project will look like this:

Table 11

Net discounted income, discount rate 21%, thousands of \$

годы	Pt	ICt	Pt - ICt	$1/(1+d)^t$	NPV
1		25 000,00	-25 000,00	0,826446	-20 661,16
2		42 000,00	-42 000,00	0,683013	-28 686,57
3		31 400,00	-31 400,00	0,564474	-17 724,48
4	27 100,00	500,00	26 600,00	0,466507	12 409,10
5	27 100,00	500,00	26 600,00	0,385543	10 255,45
6	27 100,00	500,00	26 600,00	0,318631	8 475,58
7	27 100,00	500,00	26 600,00	0,263331	7 004,61
8	27 100,00	500,00	26 600,00	0,217629	5 788,94
9	27 100,00	500,00	26 600,00	0,179859	4 784,24
10	27 100,00	500,00	26 600,00	0,148644	3 953,92
11	27 100,00	500,00	26 600,00	0,122846	3 267,70
				Итого	-11 132,66

That is, in this case, the payback period of the project is extended by almost 4 years, which is absolutely unacceptable for the investor. If this risk is identified in time and the measures described in point 3.7.3 are applied, such significant financial losses can be avoided (for example, insurance and a combination of different financing methods).

Now let's consider the risk of a decrease in the volume of sales, and in our case, a decrease in the amount of leased space. In the case of 80% occupancy, we will get the following financial result (table 12):

Table 12

Net discounted income, amount of leased space, 80%, thousands of \$

годы	Pt	ICt	Pt - ICt	1/(1+d)t	NPV
1		25 000,00	-25 000,00	0,862069	-21 551,72
2		42 000,00	-42 000,00	0,743163	-31 212,84
3		31 400,00	-31 400,00	0,640658	-20 116,65
4	24 390,00	500,00	23 890,00	0,552291	13 194,23
5	24 390,00	500,00	23 890,00	0,476113	11 374,34
6	24 390,00	500,00	23 890,00	0,410442	9 805,47
7	24 390,00	500,00	23 890,00	0,35383	8 452,99
8	24 390,00	500,00	23 890,00	0,305025	7 287,06
9	24 390,00	500,00	23 890,00	0,262953	6 281,95
10	24 390,00	500,00	23 890,00	0,226684	5 415,47
11	24 390,00	500,00	23 890,00	0,195417	4 668,51
				Итого	-6 401,20

That is, in this case, the payback period of the project is extended by almost 2 years, which is also unacceptable for the investor. If this risk is identified in time and the measures described in point 3.7.3 are applied, such significant financial losses can be avoided (marketing research, advertising campaigns, etc.).

As for the risk involved with the implementation of the investment agreement, in the event of its occurrence, AKRON Group will experience losses in the amount of funds already invested in the implementation of the project, for example, as of 12/31/2009, this amount will be \$52,764,000. But this can be avoided by implementing the risk management system described in point 3.8 of the diploma project and applying the measures described in point 3.7.3 (writing the parties' agreements).

CONCLUSIONS FROM CHAPTER 3

Thus, it became clear to us that the introduction of an effective risk management process in the company allows to secure its main activity, to insure against the occurrence of risky events.

The effectiveness of the entire risk management process in the company is primarily determined by the risk management culture. The latter depends on the extent to which "risk" and "risk-management" factors are taken into account in the processes of making decisions on various aspects of the company's activities.

The company's "philosophy" regarding risks and risk tolerance, the management of the risk management unit and its organizational structure, the complete disclosure of information about risks and the risk management system to the company's employees and external persons, as well as the level of understanding and the degree of participation in the risk management process of the entire team companies - all this is related to culture risk management.

In the case of AKRON Management LLC, the culture of risk management is not developed, it is in the stage of formation, like the company itself. But project proposals will create a sufficient foundation for its formation. In fact, using a risk management process will make the risk-taking process more manageable. If a company has a risk management system, its management should not assume that it is protected from any risks. However, the presence of such a system should allow managers to accept risks that they consider acceptable, more consciously, understanding what is possible. Basically, the risk management system should allow the company to reasonably expect that it will be able to cope with any adverse situations and losses, if they do not go beyond the established limits.

CONCLUSION

The field of development is very closely related to such a concept as risk, especially in the era of economic crisis. The most important features of the real estate market are locality, high state dependence regional economy, long-term nature of investments, low liquidity of the product on the market. Relying on the high capital intensity of real estate objects and the significant level of costs of real estate transactions, these circumstances place the problem of risk events in one of the first places in development. And here, risk management comes to the aid of developers - a specific area of management that requires knowledge in the field of theory of the insurance company, analysis of the economic activity of the enterprise, mathematical methods of optimizing economic tasks, etc. market economy system.

Risks in the field of development have a rather specific nature - these are contracting risks, design risks, and legal risks related to ownership, encumbrances, etc.

"AKRON Management" LLC, engaged in development and investment activities, is a "daughter" of the AKRON Group, a group of companies that has been on the market for a long time, and is a young, dynamically developing organization. At the moment, the main, "pilot" development project is the "A" class office complex "Zaporizka, 3", located in the center.

As for the risk management system, project management in this area is in its infancy, as is the company itself. In the course of the pre-diploma internship, a number of shortcomings in the work of the enterprise were identified, which affect the course of project implementation (see section 2).

The described bottlenecks in the project management system of AKRON Management LLC, and in particular risk management, need to be worked out and can be solved with the help of a set of measures aimed at creating a continuous process of risk management, described in chapter 2 of the diploma project.

The proposed project proposals will create a minimal, but sufficient foundation at this stage for the formation of a risk management culture.

In fact, the implementation of the risk management process will make the risk-taking process more controllable and help avoid possible financial losses.

For the effective functioning of the risk management system at the enterprise, it is necessary to create an a priori methodological supplement that defines the basic concepts and functions of the system. Without defining the tasks of risk management, the parameters of the analyzed general sample (appropriate for the consideration and analysis of the information space, limited by the parameters and tasks of the risk management system), the requirements for the information space

of risk management, the characteristics of the solutions being developed in the organization, it is impossible to create an effective risk management structure in the conditions development project associated with increased risk. These basic definitions should be the permanent backbone of the risk management framework.

LIST OF REFERENCES

1. Modular program for managers #8: program and project management. Study guide. Under the editorship M.L. once - M.: Infra-M, 1999. - 392 p.
2. Project management. Basics of project management: textbook / quantity. Auth.; under the editorship Prof. M.L. Razu - M.: KNORUS, 2006. - 768 p.
3. Guide to the Project Management Body of Knowledge (PMBOK Textbook). Third edition. - M. Project Management Institute, 2004. - 238 p.
4. Development. I.I. Mazur, V.D. Shapiro, N.G. Olderogge - M.: Ekonomika, 2004. - 521 p.
5. Management of the organization. Encyclopedic dictionary. A.G. Porshnev - M.: INFRA-M 2001. - 822 p.
6. Project management. Study guide / According to general ed. I.I. Mazury - 2nd edition. - M.: Omega-L, 2004. - 664p.
7. The risk of investment projects Ostrivska - Moscow: Economy, 2004. - 269 p.
8. Construction economics: Textbook / General editor. I.S. Stepanova. - 3rd ed., Add. And rework. - Moscow: Jurayt-Izdat, 2004. - 620 p.
9. Development. Real estate development. Organization.Management. Financing. S.M. Maksimov -, 2003 - 256 p.
10. Modern project management in construction. Study guide. A. Yu. Lukin: AGTU Publishing House, 1999 - 85 p.

APPENDIX 3.

STATUS OF THE DEVELOPMENT PROJECT AT THE BEGINNING OF 2008

2004-2005 year

In the execution of the investment contract, a visual booklet of the pre-project proposal of the complex of buildings was prepared and agreed with the following services of the city:

Head of APU - deputy head, Administration of Prishensky district - deputy. Heads of Departments our letter of approval from the first deputy has been answered. Prefect of TsAO.

In terms of the layout of the building being designed, the following conclusions were obtained:

The comments and proposals of these organizations are sent to the designers for consideration in the work on the pre-project proposal.

The work on the examination by the employees of the LLC has been completed "Fundamental building project" of building No. 1, taking into account the addition of an additional onefloor above the existing building.

Completed external plan and elevation measurements of building No. 3, page 1, with plan and section drawings.

Shooting of the tree on the object was completed. Based on the shooting. Completed dendroplan.

In connection with the circumstances caused by the adopted scheme of regulation of urban planning activities in the historical territories of Kyiv, difficulties arose in the implementation of the investment project, and "budinvest" LLC was forced to

enter into an agreement with "METS - CENTER" LLC in June 2005, which proved himself on the construction market as a high professional in the execution of a complex of pre-design, design works and services for the construction of a complex of buildings on the street. Zaporizhia, d. No. 3, p. 1. Taking into account the comments and suggestions of the city services, a new version of the visual booklet of the pre-project proposal for the restoration and new construction of the complex of buildings on the street was made. Zaporizhia, d. No. 3 with preliminary demolition of five buildings 2, 3, 4, 5, 6. The new pre-project proposal is being approved by the city services that have issued comments.

The project of the boundaries of the territory of the cultural heritage object of the existing building has been completed.

The opinion of the expert commission on protected zones of the Heritage Committee was received.

The development of the section of the project on ecological and urban planning justification of the pre-project proposal of the future complex has been completed.

Work on calculating the insolation of future buildings has been completed of the complex

2006

A new version of the visual booklet of the pre-project proposal for the regeneration (new construction of a complex of buildings) of the territory on the street. Zaporizhzhia, No. 3 agreed in the city services.

Project boundaries of the object territory of the cultural heritage of the existing building is coordinated with the city services.

The opinion of the expert commission on protected zones of the Heritage Committee was received.

Conclusions have been obtained for environmental and urban planning justification from:

Department of Nature Management, State environmental expertise.

the existing engineering communications were examined - heating, water supply

and sewage networks, input nodes;

the existing geosubbases of the territories adjacent to the construction site were analyzed.

Presented by Proektbudinvest LLC to the Technical Council

"Kyivvodokanal", the project of the route of the sewage collector, which is transferred, within the existing development of the territory, was considered and agreed.

The latest version of the visual booklet of the pre-project proposal for the regeneration (new construction of a complex of buildings) of the territory on the street.

Zaporizka, d. No. 3 was reviewed by members of the Architectural Council of the city of Kyiv and agreed upon by the city's chief architect.

Project borders of the territory of the cultural heritage object of the existing building was approved by the expert commission on protected zones of the Heritage Committee.

The territory was removed from the protection zone of the regenerating cultural heritage object.

Pre-project materials for the regeneration of the territory have been coordinated with the interested city services.

The Architectural Council of the city of Kyiv agreed with the presented pre-project materials for the regeneration of the building with placement on the site of the old buildings (page 2, page 3, page 4, page 5, page 6) of the four-story Administrative Complex of the Kyiv Medical Academy with four underground levels, three of which have parking lots for 294 spaces.

By a repeated decision, the regulatory commission of architecture approved the architectural concept, which provides for the construction and regeneration of the development of the site at the address: Zaporizka St., bldg. 3 in the amount of 25,660 sq.m., of which 13,210 sq.m. is the above-ground part and 12,450 sq.m. is the underground part (parking lots and shopping areas).

A contract has been concluded regarding the design of the sewage collector removal from the building site.

According to the presented by Proektbudinvest LLC to the technical board of "Vodokanal", the sketch of the route of the sewage collector, which is translated, within the existing development of the territory, the Technical Conditions were obtained.

Work on calculating the insolation of the buildings of the future complex has been completed. A section of the project on morphotypes has been developed.

Pre-project proposal for the regeneration of the development of the plot with adaptation for the administrative complex of the Medical Academy named after I.M. Sechenov with the restoration of the existing building on the street. Zaporizhia, No. 3 was considered by the members of the Regulatory Commission of the Chief Architect of the City of Kyiv.

Decided: to approve the placement and volume decision for the development of pre-project documentation for the execution of the act of permitted use (ARI);

The Conclusion on the compliance of the located object (ZOS) with the established town planning requirements and regulations for the use of the territory was received;

Conclusion No. 33/1/14426/6 dated September 5, 2006 was received. Department of Land Resources of Kyiv;

Conclusion No. 16-06-13/4707 dated 09/11/06 was received. The Committee for Cultural Heritage of the City of Kyiv;

Sketch No. 1 agreed:

Deputy Goal. an architect from TsAO; Head of the district administration; Heritage Committee; Kyiv metro; Kyiv Water Canal;

Conclusion on engineering support of the object No. 544/06 dated 06.09.06 was received.

Received Sanitary and Epidemiological Conclusion No. 10-16/667 dated 09.08.06. in the city of Kyiv.

Conclusion No. 06.14.10631/6 dated September 13, 2006 was received. Department of nature management and environmental protection of the city of Kyiv.

Conclusion #21/2/2366 dated September 11, 2006 was received. from the Department of Civil Protection of Kyiv.

Received according to the pre-project proposal for the regeneration of the development of the site with adaptation to the administrative complex of the Medical Academy with the restoration of the existing building on the street. Zaporizhia, d. No. 3 ACT of Permitted Use (API) of the territory of the urban land plot for the implementation of construction No. A-2925/02 dated 14.12.2006, register. No. 3.1.22.003089 dated 15.12.2006;

Conclusion No. 33/1/14426/6 dated September 5, 2006 was received. Department of Land Resources of Kyiv;

Conclusion No. 16-06-13/4707 dated 09/11/06 was received. The Committee for Cultural Heritage of the City of Kyiv;

Conclusion on engineering support of the object No. 544/06 dated 06.09.06 was received.

Received Sanitary and Epidemiological Conclusion No. 10-16/667 dated 09.08.06. Ukrspozhivnadzor for the city of Kyiv.

Conclusion No. 06.14.10631/6 dated September 13, 2006 was received. Department of nature management and environmental protection of the city of Kyiv.

Conclusion #21/2/2366 dated September 11, 2006 was received. from the Department of Civil Protection of Kyiv.

Sketch #1 APPROVED.2007

Work has begun on the second stage of the investment contract - project work, including by the end of the year:

development and coordination of design tasks - 60%;

abstract with characteristics of architectural and urban planning decision; with technical and economic indicators - 85%;

general plan - 70%;

architectural and construction solution - 70%; technological solutions - 95%;

environmental protection - 0%; engineering and technical measures of NGOs and emergency services - 30%; organization of construction - 30%; energy efficiency – 0%;

fire extinguishing and notification system - 100%; video surveillance and control systems - 100%.

Contracts have been concluded for the construction of an administrative complex Medical Academy named after I.M. Sechenov at the address: Zaporizka St., bldg. 3:

Agreement No. 61 Investment dated November 28, 2006 Participation of "Soinvestor" LLC "Ukrprombank-Invest" in implementation investment project. The amount of the contract is USD 8,123,000. The deadline is the 2nd quarter of 2009.

Agreement No. 657. Execution of project works by "METS-CENTER" LLC. The amount of the contract is 169802340. The deadline is the 4th quarter of 2007.

Contract for performance of the customer's functions dated January 15, 2007 LLC "Budivelnyk XX1" Contract amount UAH 37,489,642. The deadline is the 2nd quarter of 2009.

Contract No. 421 for the implementation of the BMR regarding the removal of the sewage collector from the building site. The amount of the contract is UAH 2,474,6807. The deadline is the 3rd quarter of 2007.

Contract No. 742 for the performance of works on modeling the impact of construction on surrounding buildings. The amount of the contract is UAH 802,243. The deadline is the 3rd quarter of 2007.

Contract No. 743 for the inspection of nearby buildings. The amount of the contract is 6424578. The deadline is the 3rd quarter of 2007.

Contract No. 45 dated 05/21/07 for instrumental survey and vibration level prediction with Vibroseismozakhist LLC. The amount of the contract is UAH 139,765. The deadline is the 3rd quarter of 2007.

Contract No. 304/01-05 dated 04/23/07 demolition of buildings 2,3,4,5,6. LLC "FPK "Satori". The amount of the contract is 5816704. The deadline for the 4th quarter of 2007

Agreement No. 304-07 dated 03/22/07 for obtaining technical conditions of Progress Prom Stroy LLC. The amount of the contract is UAH 700,000. Deadline for the 3rd quarter of 2007.

Contract No. 02/07 dated 10.01.07 disconnection from external city engineering communications. "Progress Prom Bud" LLC. The amount of the contract is UAH 2,997,272. The deadline for the 4th quarter of 2007.

Agreement No. 32/07 of February 7, 2007, sanitary and ecological survey of soils. Eco-city The amount of the contract is UAH 143,284. Deadline for the 2nd quarter of 2007.

Agreement No. 1-A dated 01.20.07 for the receipt of technical conditions of LLC "Builder XX1". The amount of the contract is UAH 624,000. The deadline for the 4th quarter of 2007.

Agreement No. 3/4854-07 dated 05/23/07 duplicating red marks. The amount of the contract is UAH 140,232. The deadline is 3 quarters. 07

The execution of contracts in terms of terms and quality is constantly monitored, letters of claim are written (No. 203 dated 11.24.06), offer letters (No. 27-32 dated 03.26.07). regularly, every two weeks meetings are held with managers - executors to monitor the deadlines for fulfilling obligations under contracts.

The Forensic Medical Examination Center was relocated from the old building No. 2.

The protection obligation No. 16-11/007-590/7 dated 05.25.07 of the user of the cultural heritage object for the existing building on the street was received. Zaporizka, d. No. 3, p. 1, subject to restoration, between the Kyiv Medical Academy and the Heritage Committee.

A sanitary felling of trees and shrubs was carried out on the area being regenerated. According to the Permit of the Heritage Committee No. 16-15/0011-1213/7 dated On September 11, 2007, buildings were demolished at the address: Zaporizka St., building 3, pages 2, 3, 4, 5, 6.

Work on removing the sewage collector from the construction area of the object has been completed.

4 pages.

FUNCTIONS OF THE MAIN PARTICIPANTS OF THE PRE-INVESTMENT STAGE PROJECT "Zaporizka, 3"

1. The Customer's block

Functions of AKRON Management LLC:

1. Project Management, including in particular:

Organization of the development of a new project implementation concept taking into account the initial project implementation concept;

Development/change of the following documents within the framework of the new project implementation concept:

- change of the Business Plan of the Project;
- assessment of business risks of the Project;
- preparation of the Project budget, including allocation of construction costs by terms, stages of the Project and their elements, and control over the implementation of the Project budget;
- preparation of a financial strategy project implementation, including cash flow planning;
- determination of the stages of the Project implementation, their elements and control terms;

Analysis of technical documentation regarding its compliance with the Project

concept and preparation of information necessary for the Developer to make decisions regarding technical documentation;

Planning and building schedules of the Project's need for resources and drawing up and optimizing work schedules at all stages of project implementation;

Organization and holding of tenders for the selection of independent contractors, executors and suppliers at all stages of project implementation;

Participation in negotiations with independent contractors, contractors and suppliers to prepare information necessary for the Developer to make decisions;

Coordination and monitoring of the work of third parties in accordance with the provisions of clause 9 of this Agreement;

Preparation of job instructions and control over the implementation of the provisions of such instructions.

2. Construction management, including, in particular:

Coordination of activities and implementation of monitoring of the work of independent contractors and other third parties, including, in particular:

- control over construction workworks, including control over the construction process in accordance with the Project Implementation Plan;
- control and monitoring of the process of preparation of Technical Documentation during project implementation;
- preparation and holding (on request) coordination meetings with Project participants;
- Control over the conformity of works used,used devices, materials and equipment, the concept of Project implementation;
- Analysis of the results of the implementation of the Project stages and the preparation of information necessary for the Developer to make decisions regarding their adoption;

Preparation of reports on the progress of works, including the following sections:

- analysis of the scope of works performed to date, including information and/or confirmation that these works are generally performed in accordance with the Project budget, construction contracts, contracts with third parties, etc.;
- compliance of the Project budget with the actual costs incurred on the date of drawing up the current expenditure report and clarification of the Project budget;
- a detailed description of the currentthe state of the project, including an assessment of the quality of the work performed by the contractor.

3. Services in the field of accounting of the organization-Customer:

System development accounting and tax accounting and relevant accounting policies;

Accounting accounting;

Preparation of annual and interim financial statements of the Customer in accordance with accounting standards and submission to competent authorities in accordance with legislation;

Compilation of the Customer's tax reporting and submission to competent authorities in accordance with tax legislation;

Installation and maintenance of automatedaccounting systems; Maintenance, storage and archiving of accounting documents; Calculation of taxes and other mandatory payments;

Ensuring compliance with the requirements of financial and monetary discipline;

Preparation of reporting for Ukrstat and its timely submission to relevant bodies;

Representation of the Customer's interests in state bodies regarding issues of taxation and accounting and reporting;

Drafting of the Customer's financial documents, which require the signature of the Chief Accountant in accordance with the requirements of the law;

Preparation of payment instructions for making payments and interaction with banks;

Cooperation with auditors, tax consultants and other professional consultants of the

Customer and providing them with all necessary information and documentation

Control over the correct inventory of assets and liabilities;

Provision to the Customer's participants of all detailed information requested, according to accounting and tax accounting data, within the stipulated time and in the agreed formats;

passing an external audit;

Other services necessary to fulfill the requirements of legislation in the field of accounting and taxation.

Functions of Ukrprombank-Invest LLC:

1. Management of the Customer's personnel records in accordance with the norms of the Labor Code of Ukraine, other valid normative legal acts of Ukraine and local legal acts of the Customer regulating labor relations, including:

registration of admission, transfer and dismissal, as well as vacations and business trips of the Customer's employees;

registration, maintenance and storage of work books of the Customer's employees;

maintaining established personnel documentation;

preparation of materials for the submission of the Customer's employees for promotion; organization of search and selection of candidates to fill vacant positions;

designing employees of the Customer of mandatory social insurance policies.

2. Ensuring the security of the Customer's activities (with the exception of private security services), including:

protection of legal rights and interests of the Customer and its employees;

collection, analysis and evaluation of information about counterparties, customers, competitors, candidates for filling vacant positions;

timely detection of possible threats to the Customer and its employees from external sources of security threats;

Issuance of recommendations on preventing the penetration of economic

intelligence structures of competitors, organized crime and individuals with illegal intentions into the Customer's enterprise;

prevention of technical penetration of the Customer's enterprise for criminal purposes;

detection, prevention and termination of possible illegal and other negative activities of the Customer's employees to the detriment of his safety;

obtaining the necessary information for the development of the most optimal management decisions regarding the strategy and tactics of the Customer's economic activity.

3. Marketing services related to the Project, including:

quarterly marketing research of the market of non-residential real estate for rent, similar to those constructed (reconstructed) within the framework of the Project, for the purpose of monitoring tenants' requirements for technical, functional and other characteristics of real estate in the city of Kyiv;

development of proposals on the basis of marketing research to change the relevant characteristics of real estate objects being constructed (reconstructed) within the framework of the Project, which do not require changes to the project documentation.

4. Full legal support of the investment project, in particular:

examination, development and preparation of documents (contracts, correspondence with counterparties and authorities, etc.);

providing the Customer with oral and written consultations at his request on issues directly related to the implementation of the Project;

representation of the Customer's interests in courts of any instance, including the preparation of all necessary procedural documents;

participation (at the Customer's request) in negotiations with counterparties; legal support:

- registration of the Customer's (developer's) rights to the real estate object being reconstructed as part of the Project, namely a non-residential building, located at the address: Kyiv, st. Zaporizhia, building 3, page 1 (in particular, the development

of the procedure for registration of the Customer's (developer's) rights to the specified building;

- termination in accordance with the established procedure of previously arising rights to the specified building;

- Registration of land rights by the Customer (developer).relations regarding the land plot at the address: Kyiv, st. Zaporizka 3, p. 1,2 (cad. No. 77:02:04013:136), on which the construction and reconstruction of real estate objects will be carried out within the framework of the Project implementation (including the development of the procedure for registration of the Customer's (developer's) rights to the specified land plot and its approval;

- Changes in the type of permitted use of the land plot;

- termination in the prescribed manner of previously established encumbrances and restrictions on the specified land plot;

termination in accordance with the established procedure of previously arising rights to the specified land plot;

representation of the interests of the Customer (developer) in the authority that carries out state registration of rights to immovable property and agreements with him, regarding registration of rights to the specified land plot in his name);

legal support for the distribution of the results of investment activities and registration of the Customer's ownership rights to real estate objects, which constitute his share in the results of investment activities (including the registration of the act of implementation of the Project, representation of the Customer's interests in the authorities that carry out state registration of rights to real estate and agreements with him, on issues of state registration of the Customer's ownership of real estate objects, which constitute his share in the results of investment activities, as well as representation of the Customer's interests in authorities authorized to maintain the cadastre of real estate objects, in authorities and in organizations authorized to carry out technical inventory (cadastral accounting (of real estate objects));

legal support of the activities of the company engaged by the Customer to control and supervise the design and construction (technical customer), regarding the issuance by the Government of Kyiv of a decision on the construction and reconstruction of the real estate objects provided for in the Project, namely the administrative document of the Government of Kyiv (order or resolution) by which, in particular, the terms of construction works and the Act of permitted use of the land plot must be approved;

legal support for the equivalent replacement of Ukraine's share in the right to the results of investment activities provided for by the investment contract dated 04/08/2004 No. 01-30/311 (including the development of the procedure for the specified replacement, submission of the Customer's interests to the authority that carries out state registration of rights to real estate transactions with him, on the issue of state registration of property transfer to Ukraine of rights to real estate objects, which are provided instead of the state's share in the right to the results of investment activities provided for in the investment agreement dated 04.08.2004 No. 01-30/311);

legal support of passageBy the customer of coordinating bodies when issuing permit documentation during the construction and reconstruction of real estate objects within the framework of the Project implementation;

other services are directly related to the Customer's implementation of the Project.

5. Current legal support of the Customer's activities (on matters not related to the Customer's implementation of the Project), in particular:

expertise, development and trainingcontracts and corporate documents in the terms agreed with the Customer (at the same time, "corporate documents" are understood to be documents formalizing the decisions of the Customer's bodies and its internal documents);

providing the Customer with oral and written consultations on matters of civil, corporate, labor, land, administrative and arbitration procedural law within the agreed terms at his request;

representation of the Customer's interests in Ukrainian courts of any instance, including the preparation of all necessary procedural documents;

legal assistance in drawing up contracts with future tenants of real estate objects to be transferred to the Customer as a result of the implementation of the Project, including development and preparation of lease agreements, formation and maintenance of the register of tenants; other legal services.

2. Work management unit for the entire complex Functions of ProektKomplex LLC:

1. Together with the design organization to prepare technical specifications for design, approve it with the Customer and agree in the prescribed manner.

2. To ensure the development and receipt of all necessary initial data for the design of the Object.

3. Ensure receipt of administrative and permit documentation for construction, including:

the legal act of the Government of Kyiv (hereinafter referred to as the "Executive Act") on the approval of the document provided for by the urban planning legislation of the city of Kyiv (hereinafter referred to as АРІІ"), containing requirements, parameters, conditions of permitted use and other information about the land plot for construction of the Object;

a construction permit, which will confirm the compliance of the project documentation for the construction of the АРІІ Facility;

permission to put the Facility into operation, which will certify the compliance of the constructed Facility with АРІІ.

4. Provide technical support for the execution of reconnaissance and design works, development of design and estimate documentation for stages

"Project" and "Working documentation" with the provision of assistance to project and intelligence organizations in the course of intelligence and design.

5. Control the quality and terms of development of design and work documentation in accordance with the current regulatory documentation, design specifications and contracts for design and/or exploration work.

6. Ensure the completeness of the developed project documentation, its coordination in the established order and its transfer to state expertise bodies. To ensure that the comments of the state expertise bodies are removed and their positive conclusions are obtained.
7. Accept the working documentation being developed from project organizations, check it for completeness and compliance with the approved project and the Technical Task. Put a stamp "in progress" on the checked work documentation, signed by the person responsible for technical supervision, and hand over this documentation To the general contractor according to the act, or to return the documentation to the developer with a reasoned refusal.
8. Ensure the execution of a land plot lease agreement for the design and construction period and its state registration at the Federal Reserve Bank Office in Kyiv.
9. Apply at Kyiv Horbudpermission to carry out construction and assembly works (preparatory and main period).
10. Organize, together with the general contractor, geodetic landing of the Object by the forces of a specialized organization.
11. To ensure the preparation and conduct of tenders for the selection of the general contractor, the designer, as well as for the conclusion of any contracts regarding the Object, the amount of which exceeds UAH 1,500,000, with the mandatory participation of the Customer's representatives in the work of the tender commission.
12. Require contractors on behalf of the Customer to enter into construction risk insurance contracts related to the accidental loss of materials, equipment and other property used in construction, and liability for damage caused in connection with the construction of the Facility, with the provision of a certified copy to the Customer insurance policy (insurance contract)).
13. Obtain technical conditions for temporary power supply for the construction period and technical conditions for connecting engineering communications to the object and control the validity periods of the issued technical conditions.

14. To ensure the release of the construction area, the resolution of other issues related to the preparation of the site for the performance of works.
15. Ensure the development and implementation of a permit for the movement of construction and demolition waste and removal of soil.
16. Organize control over the deformations and condition of buildings and structures in the area of influence of the construction of the Object.
17. Organize construction management, coordinate the activities of design, construction and assembly specialized and other organizations.
18. To control the course of design and construction and installation works and commissioning of the Facility within the terms agreed with the Customer.
19. Carry out full technical supervision of works at the Facility. To interact with state supervision bodies, inspections and commissions during their inspections at the Facility.
20. To monitor the implementation of technical conditions for the laying of external communications in terms that ensure the timely commissioning of the Facility.
21. When accepting the actually completed volumes of construction and installation works, control the conformity of the volumes and quality of the completed and submitted for payment of the design and estimate documentation, check the correctness of the filling (details, signatures, seals, deciphering, filling in all the necessary columns, etc.) of the entire set of documents, including invoices. Ensure quality control and compliance of all materials and equipment used for the construction of the Facility with the requirements set forth by regulations, rules and project documentation for the construction of this Facility. Check the availability of documents certifying the quality of structures, products and materials used in construction (technical passports, certificates, laboratory test results, etc.).
22. Control the availability and correctness of primary executive technical documentation (executive schemes, instrumental surveying of assembled structures, parts of buildings, structures and engineering communications, general

and special work logs) and making changes to it in connection with identified shortcomings and defects during the production of assembly work .

23. Conduct an inspection and assessment of the completed works and structural elements that are hidden during the execution of subsequent works.
24. Monitor the performance of contractors instructions and prescriptions of the author's supervision and state construction control bodies, as well as the requirements of technical supervision related to the issues of the quality of the construction and assembly works being performed and the structures, products, materials and equipment used, to ensure the timely elimination of defects and deficiencies identified during acceptance individual types of works, structural elements of buildings, structures and the Object in general.
25. To stop (with the notice of the Customer) the work of contractors in the event that these works are performed in violation of technology, of poor quality, with the use of low-quality or unsuitable declared materials.
26. Carry out intermediate acceptance responsible structures of buildings and structures - load-bearing metal and reinforced concrete structures, etc.
27. Assess the quality of equipment installation, participate in a complex test conducted by state supervision and construction control bodies.
28. Order a technical inventory of the building and production of three copies of the object's technical passport at BTI three months before the object is put into operation. Transfer the documentation received from BTI to the Customer.
29. Organize handover of the completed Object by the general contractor, to present the Object to the reception commission in the established order, to ensure

the commissioning of the Object and to hand over to the Customer a permit for the commissioning of the Object or another similar document provided for by the current legislation.

30. After putting the Facility into operation, transfer the completed Facility to the Customer and the operating organization, complete design and estimate and technical documentation.
31. Review the draft contracts concluded by the Customer with third parties (contractors, suppliers), control the drawing up of design schedules, execution of construction and assembly works and commissioning of the Facility, as well as financing schedules of all the mentioned works. Submit the prepared documents to the Customer for review and approval.

Functions of Workshop #5

1. Finalize and adjust project documentation at the stage "Project" (hereinafter - PD) of building construction:

Adjustment of planning decisions for preliminary agreement with the Customer.

Adjustment (new development) of PD sections:

- Architectural part of the project.
- structural part of the project.
- The development of the regulation booklet is at the "P" stage.
- Development of the OViK section.
- Development of the VC section.
- Development of the EO section.
- Section development SVT.
- The development of the section is fireproof automatics.
- Development of automation section plumbing systems

- developmentGeneral plan and improvement.
- Development of vertical planning and dendrology.
- Smoke protection.
- Domestic engineering networks.
- technological sectionof the project.
- Environmental Protection Section.
- Energy efficiency section.
- Development of technological regulations for the process of handling construction and demolition waste.
- Section PIS.
- Section of the OZDS.
- Engineering-technological measures of GO and NS.

2. Coordinate the PD together with the Customer with the competent state bodies and bodies of the city of Kyiv:

Preparation and transmissionproject to KCA. Passing the regulations.

Transfer of the project to KGE. Passing together with the Customer KGE, correction (if necessary) of PD based on the comments of coordinating and supervisory bodies and organizations.

3. Restoration control unit Functions of STS Engineering LLC:

1. Drawing up and approval of the restoration sketch and project

adjustment Adjustment of planning decisions for preliminary agreement with the Customer:

Development organizationcomplex historical and architectural research with a project of the object of protection

Organization of historical and cultural expertise regarding approvalssubject of protection (speakers, experts, materials) (Excerpt from the protocol):

- Working group;

- expert commission.

Development support and control:

- sketch restoration project (project);
- approved parts of the building adaptation project for modern use, including the improvement project.

Organization of a specialized examination of a Technical opinion on the state of the structure (if necessary, organization of its adjustment)

Organization of mycological research (if necessary)

Preparation Tasks and organization of engineering and technological studies of building materials

Preparation of materials, work with experts and passing the Methodical Council regarding the approval of the draft restoration project (Protocol)

Approval of the project adaptation of the building to modern use:

- consumer supervision (Conclusion);
- Derzhpozhnadzor (conclusion)
- etc. coordinating organizations

Approval of the draft restoration project and adaptation project in Conservation Culture

Preparation of materials and examination with the adaptation project (Conclusion)

Organization of the development, approval of the POR regarding the preservation of the building and the budget plan if (necessary)

2. Issuance of permit documentation

Development and coordination of a program (set) of restoration works (priority works) (if necessary, a cartogram of restoration works)

Preparation of materials and execution of the Planned (restoration) task for carrying out works on the preservation of the cultural heritage object

Organization of the development, approval and approval of the work schedule

Preparation of materials and design of color passport and evening lighting project

Compilation of materials and issuance of a Permit for the performance of works for the preservation of a cultural heritage object

Functions of TSYGI LLC:

1. Previous works. Definition of the subject of protection. Issue of a booklet.
2. Conducting stereophotographic measurements of facades.
3. Development of a sketch project of restoration of facades.
4. Development of Working Documentation.

4. Consulting unit Zechner&Zechner functions:

1. Architectural and planning part, preparation of the Explanatory Note, which includes:

basic technical and economic indicators;

an explanation of the premises (with an indication of the areas, with a breakdown by buildings and floors);

description of the adopted planning decisions based on their rationale; drawing:

- floor plans of m 1-200 (with the numbering of all premises, indicating the name of the premises and the area of the premises on the plan, indicating the overall dimensions of the building and dimensional chains according to the structural grid (dimensions are indicated in millimeters)),

- Sections m 1-200;
- facades m 1-200 (all projections, including facades facing the courtyard);
- Illustrative materials:
- 3D model of the building - main projections; photomontage with the integration of the designed building into the existing building.

2. Preparation of technical requirements for the development of documentation at the stage "Project":

Explanatory note:

- a description of the adopted constructive decisions with their justification, indication of the applied design structural loads, including characteristic construction structures and materials used (class of fire resistance, sanitary and hygienic requirements, etc.);
- description of decisions regarding internal engineering systems by types of systems (telecom, water supply, heat supply, ventilation, air conditioning, hot water supply, electricity supply), description of the principle of calculation of engineering loads and applied design loads;
- description of technological decisions regarding the mode of operation of the building (including technological decisions regarding the collection and utilization (removal) of household waste, in built-in retail premises and public catering premises).

Graphic materials:

- important schemes by types of Eng. systems
- engineering equipment recommended for use,
- compound schemes;
- plans of engineering and technological premises with proposals for the placement of engineering and technological equipment for trade and public catering premises m 1-100.

3. Author's design support by the architect of stage "P".

Functions of LLC "ODS":

1. Development of the concept of maintenance of the Object as a multifunctional complex, preliminary calculation of the cost of maintenance of an office building with restaurants and a store, put into operation.
2. Analysis of the compliance of the design documentation materials developed by the general designer with the requirements of the standards and regulations established in Ukraine and the wishes of the Customer regarding:

- elevators and elevator equipment;
- Power supply systems;
- heating systems;
- cold and hot water supply systems;
- Drainage systems;
- ventilation and air conditioning systems.

2. Issuance of recommendations on the adjustment of technical design tasks.

3. Legal analysis of volume-planning decisions: analysis of the master plan for the development of the improvement of the territory for the needs of parking and recreation, analysis of the object's floor plans for compliance with SNIP and DSTU.

Features of Sawatzky Property Management:

1. Conducting an analysis of the construction concept to control the decisions taken in terms of the implementation of the requirements for class "A" office buildings in terms of:

constructive solutions;

internal engineering systems of the Facility (heating, ventilation, air conditioning, water supply, sewage, drainage, power supply, automation, low-current systems);

external networks: pipelines of heating systems, water supply, sewerage, drainage, electrical networks, automatic security and communication systems, radiofication;

infrastructure devices of the Facility;

provision of services to tenants of the Object.

2. Support for the development of project documentation (stage "P") and issuing recommendations for the purpose of optimizing future operating costs in terms of:

organization of the access system to the Facility for tenants and visitors;

organization of traffic and parking of motor vehicles on the territory adjacent to the Facility internal engineering systems:

organization of loading and unloading operations;

placement of advertising structures on the Object and the adjacent territory;

volume and location of premises for the staff of the management company at the Object;

location of technical premises at the Facility, organization of access system to technical premises;

the main composition of engineering systems and their functional purpose;

technologies for using the Object's infrastructure/

3. Consultative participation professional specialists of the Contractor:

in the development of technical tasks for the design of engineering systems of the Object; in the development of technological tasks;

in meetings of project groups.