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ВИПУСКНИКА ОСВІТНЬОГО СТУПЕНЯ
“МАГІСТР”

Тема: Оптимізація діяльності Державного підприємства «Міжнародний Аеропорт «Бориспіль» в умовах кризи

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FACULTY OF TRANSPORT, MANAGEMENT AND LOGISTICS
Management of Foreign Economic Activity of Enterprises Department**

ALLOW TO THE DEFENSE
Head of the Department
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“ _____ ” _____ 2020

**QUALIFICATION WORK
(EXPLANATORY NOTE)**

Topic: Optimization of activity of the State Enterprise "Boryspil International Airport" in crisis conditions

Performed by: Ogbudu Francis Gabriel

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Educational level Master

Specialty: 073 "Management"

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TASK

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1. Topic of thesis: Optimization of activity of State Enterprise "Boryspil International Airport" in crisis conditions

approved by the Rector order of 01/10/2020, № 1848/cm

2. Deadline of thesis: from "05" October 2020 to "31" December 2020

3. Initial data for thesis: Financial and management reports of the State Enterprise "Boryspil International Airport"; statute of the State Enterprise "Boryspil International Airport", data of the State Aviation Service, scientific works, Internet resources.

4. The content of the explanatory note (list of issues to be developed):

Required: to study the main directions of strategic development of the enterprise; to identify features of strategic management process and strategic analysis tools; to analyze features of business activity optimization of the enterprise; to identify general characteristics of the SE IA "Boryspil" activity; to analyze financial and economic performance indicators of the enterprise; to study operational and strategic aspects of Boryspil Airport business activity and identify reserves for improvement; to develop economic feasible proposals on optimizing activity of SE "Boryspil International Airport" in crisis conditions using the experience of international airports.

The list of mandatory graphic material:

Theoretical part: tables – 1, fig. – 4

Analytical and research part: tables – 11, fig. – 6,

Project and advisory part: tables – 3, fig. – 3

SCHEDULE

№	Stages of qualification work	Deadline of stages	Comment
1.	Collection and analysis of necessary information about State Enterprise "Boryspil International Airport" according to the topic of the qualification work	01.10.2020 - 04.10.2020	Done
2.	Study and analysis of the main directions of strategic development of the enterprise and features of business activity optimization of the enterprise	05.10.2020-15.10.2020	Done
3.	Design of the references used in the analysis of directions of the enterprise's business activity optimization	to 25.10.2020	Done
4.	Preparation and execution of analytical and research part of the qualification work	to 29.10.2020	Done
5.	Preparation and presentation of the theoretical part	to 01.11.2020	Done
6.	Developing economic feasible proposals on optimizing activity of SE "Boryspil International Airport" in crisis conditions using the experience of international airports	to 05.11.2020	Done
7.	Design of recommendatory part of the qualification work	to 25.11.2020	Done
8.	The final design of the qualification work (contents, introduction, conclusions, appendices, etc.)	to 01.12.2020	Done
9.	Report and presentation preparation	to 05.12.2020	Done
10.	The signing of the necessary documents in the established order, preparing to defend the qualification work and preliminary qualification work defence on graduating department meeting	to 10.12.2020	Done

Student _____ (Ogbudu Francis Gabriel)

Scientific adviser of qualification work _____ (Lytvynenko L.L.)

ABSTRACT

As a result of the qualification work research, feasible recommendations on optimizing activity of SE “IA “Boryspil” were provided to ensure operational and strategic aspects’ improvement taking into account international experience of airports in overcoming crisis conditions and potential limitations of the airport.

The introduction determines the relevance of the chosen topic of the qualification work, object, subject, purpose and objectives of the study.

In the first part a study of the main directions of the enterprise strategic development was carried out, features of strategic management process and strategic analysis tools were identified, peculiarities of business activity optimization of the enterprise were studied.

In the second part general characteristics of the SE IA “Boryspil” activity were identified, financial and economic performance indicators of the enterprise were analyzed, operational and strategic aspects of Boryspil Airport business activity were studied and reserves for improvement were determined.

The third part presents proposals on using international experience of airports in overcoming crisis conditions, recommendations on optimizing activity of SE “IA “Boryspil” and economic justification of the offered recommendations.

The conclusions indicate the main results of the study and provide specific suggestions for the implementation of the qualification work.

Keywords: business activity optimization, strategic management, strategic development, operational activity, improvement, crisis conditions.

АНОТАЦІЯ

У результаті дослідження в рамках кваліфікаційної роботи були надані доцільні рекомендації щодо оптимізації діяльності ДП «МА «Бориспіль» для забезпечення вдосконалення операційних та стратегічних аспектів з урахуванням міжнародного досвіду аеропортів у подоланні кризових умов та з урахуванням потенційних обмежень аеропорту.

Вступ визначає актуальність обраної теми кваліфікаційної роботи, об'єкта, предмета, мети та завдань дослідження.

У першому розділі проведено дослідження основних напрямків стратегічного розвитку підприємства, визначено особливості процесу стратегічного управління та інструменти стратегічного аналізу, вивчено особливості оптимізації економічної діяльності підприємства.

У другому розділі надано загальну характеристику діяльності ДП «МА «Бориспіль», проаналізовано фінансово-економічні показники діяльності підприємства, вивчено операційні та стратегічні аспекти діяльності ДП «МА «Бориспіль» та визначено резерви вдосконалення.

У третьому розділі представлені пропозиції щодо використання міжнародного досвіду аеропортів у подоланні кризових умов, рекомендації щодо оптимізації діяльності ДП «МА «Бориспіль» та економічне обґрунтування запропонованих рекомендацій.

Висновки вказують на основні результати дослідження та дають конкретні пропозиції в результаті виконання кваліфікаційної роботи.

Ключові слова: оптимізація економічної діяльності, стратегічне управління, стратегічний розвиток, операційна діяльність, вдосконалення, кризові умови.

АННОТАЦИЯ

В результате исследования в рамках квалификационной работы были предоставлены целесообразные рекомендации по оптимизации деятельности ГП «МА «Борисполь» для обеспечения совершенствования операционных и стратегических аспектов с учетом международного опыта аэропортов в преодолении кризисных условиях и с учетом потенциальных ограничений аэропорта.

Вступление определяет актуальность темы квалификационной работы, объекта, предмета, цели и задач исследования.

В первом разделе проведено исследование основных направлений стратегического развития предприятия, определены особенности процесса стратегического управления и инструменты стратегического анализа, изучены особенности оптимизации экономической деятельности предприятия.

Во втором разделе представлена общая характеристика деятельности ГП «МА «Борисполь», проанализированы финансово-экономические показатели деятельности предприятия, изучены операционные и стратегические аспекты деятельности ГП «МА «Борисполь» и определены резервы совершенствования.

В третьем разделе представлены предложения по использованию международного опыта аэропортов в преодолении кризисных условиях, рекомендации по оптимизации деятельности ГП «МА «Борисполь» и экономическое обоснование предложенных рекомендаций.

Выводы указывают на основные результаты исследования и дают конкретные предложения в результате выполнения квалификационной работы.

Ключевые слова: оптимизация экономической деятельности, стратегическое управление, стратегическое развитие, операционная деятельность, совершенствование, кризисные условия.

LIST OF SIGNS, ACRONYMS AND TERMS

ACI – Airports Council International

BPM – business process management

EBITDA – earnings before interest, taxes, depreciation and amortization

EBRD – European Bank for Reconstruction and Development

GDP – gross domestic product

IA – International Airport

IATA – International Air Transport Association

ICAO – International Civil Aviation Organization

KPA – Key Performance Area

KPI – key performance indicators

SE – State Enterprise

SOE – state-owned enterprise

UAH – hryvna, Ukrainian currency

UATA – Ukrainian Air Transport Association

Bln. – billions

Fig. – figure

Inc. – incorporated

Mln. – millions

Ths. – thousands

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INTRODUCTION

Relevance of the study. In modern conditions enterprises need to maintain stability and flexibility which necessitates optimization. Process optimization is a process of adjusting to optimize a specified set of parameters without violating a few constraints. The most common goals are minimizing cost and maximizing throughput and/or efficiency.

Business activity optimization is closely related to choosing the optimal strategy and ensuring effective strategic management.

The issues of strategies' development were studied by many scholars, in particular I. Ansoff, B. Carloff, P. Drucker, L. Frederiksen, N. Kockmuller, B. Liabotis, E. Marzec, G. Minzberg, M. Porter, J. Quinn, A.A. Thompson, A.J. Strickland.

Appropriate development strategies' formation and implementation, as well as application of appropriate optimization measures are extremely relevant for the survival and successful performance of modern enterprises.

The object of this study is strategic management process of the enterprise providing implementation of improving measures in conditions of dynamic and complex international competitive environment.

The subject of the study is represented by theoretical aspects and practical measures of optimizing business activity of the international airport.

The main *purpose* of this work is to study the issues in the operation of State Enterprise "Boryspil International Airport" and to develop proposals to optimize business activities of Boryspil International Airport in crisis conditions.

Basic tasks to be performed within the major-related training's objective are as following:

- to study the main directions of strategic development of the enterprise;
- to identify features of strategic management process and strategic analysis tools;
- to analyze features of business activity optimization of the enterprise;
- to identify general characteristics of the SE IA "Boryspil" activity;
- to analyze financial and economic performance indicators of the enterprise;

- to study operational and strategic aspects of Boryspil Airport business activity and identify reserves for improvement;

- to develop economic feasible proposals on optimizing activity of SE “Boryspil International Airport” in crisis conditions using the experience of international airports.

The information base of the master qualification work was presented by statistical data, financial reporting and information of State Enterprise “Boryspil International Airport”, Internet resources, scientific works and results of researches of scholars concerning the experience of international airports in COVID-19 conditions, the forming and introducing development strategy of enterprises, as well as business activity optimization.

Research novelty is represented in proposals on optimizing activity of SE “IA “Borispil” based on system approach ensuring operational and strategic aspects’ improvement taking into account international experience of airports in overcoming crisis conditions and potential limitations of the airport.

The *practical significance* of the thesis results is presented in ways for the successful improvement of business activity of the international airport taking into account sharp reduction in air transportation volumes and strict quarantine measures, as well as some provisions of the strategic development after overcoming crisis.

PART 1. THEORETICAL ASPECTS OF OPTIMIZING BUSINESS ACTIVITY AND STRATEGIC DEVELOPMENT OF THE ENTERPRISE

1.1. Economic essence of enterprise strategic development

The study of modern theoretical approaches to the strategic development enterprises is of scientific and practical importance for a number of reasons. The effectiveness of strategic management largely depends on the correct choice and effectiveness of the formation of the strategy of enterprise development. Research on the enterprise development strategy uses the terms development, development strategy; most often under development means a wide range of organizational changes.

The terminological ambiguity regarding the interpretation of this category poses some difficulties in the formulation of the enterprise development strategy, since it is unclear what is meant by development and what elements to include in the industrial enterprise development strategy.

Development of the mechanism of forming the strategy of development of industrial enterprises requires the formalization of the conceptual and categorical apparatus in terms of establishing the concepts of development, strategy, mechanism. In the scientific environment there is a rather broad and ambiguous interpretation of the concept of development and is considered precisely in the field to which the field of knowledge relates to this concept. Depending on the scope, objectives and goals, distinguish the following approaches to determining the category of development: philosophical - depicts irreversible, directional, regular change of material and ideal objects [27].

As a result of the development, a new qualitative state of the object arises, which is a change in its composition or structure: socio-economic – depends on synchronization of actions, processes of management and control systems and stages of a life cycle; ontogenesis - studies the causal mechanisms and driving forces of the

individual development of the organism from birth to natural death; phylogeny - the development of biological species in time; strategic - depends on the achievement of the set goal and goals; factor - due to the influence of factors of the internal and external environment; adaptive - due to the accumulation of strategic capabilities in order to use adaptive mechanisms [63].

By universal approach, development is defined as evolution, directed change of any organic whole (biological, social, cultural, historical, economic), in the course of which its internal capabilities develop. Development occurs over time in a sequence of stages, as a transition from one state to another.

Development is a general scientific category on three sides as a law - the transition from one being to another, and the next state of being will be different from the previous in terms of quantitative and qualitative characteristics; as a principle - the immanent feature of being, its inherent characteristic, which predetermines the possibility of further changes of being; as a phenomenon - the opposite of being, which is in a constant state. In the philosophical encyclopedic dictionary, development (evolution, genesis) is the natural change of matter and consciousness, their universal property. That is, the essence of development is manifested in the discovery, the finding of things, parts, states, properties, relationships that have already been prepared, but were not accessible to perception, especially in the understanding of the ascent from the lower and the insignificant to the higher and complete [8].

According to another philosophical definition, development is the irreversible progressive change of the objects of the spiritual and material world in time, which is understood as linear and unidirectional. In ancient philosophy, there was a cyclical understanding of time, and therefore there was no concept of development. In the philosophy of modern times, the concept of the linear nature of time and, accordingly, the concept of development became dominant. The problem of studying the concept of development has a thorough research base. Famous American scientist R. Ackoff differentiates the concept of development and growth, noting that growth may accompany or be observed without development. He points out that, unlike

growth, development is the process of increasing one's ability and desire to meet one's own and other people's needs. The author also defines it as the acquisition of potential for improvement, not real improvement [1]. The downside to this definition is that development is seen as an opportunity, not a real process. Development can also be interpreted as an irreversible, directed, natural change of matter and consciousness; changing the state of the system to another, better, more efficient or more appropriate [12]. However, this approach contradicts the possibility of degressive or stagnant development. Under development defines a multidimensional process that involves the reorganization of the entire economic and social system. This definition does not reveal the essence of the reorganization of the economic and social system itself.

Development is a special, visible in practice and in consciousness phenomenon, which does not occur among the phenomena inherent in the cycle or tendency to equilibrium, but acts on them only as an external force. It is a change in the trajectory along which the cycle is made, unlike the cycle itself, the shift of equilibrium, unlike the process of motion in the direction of the state, but not any change or shift, but only, first, that occur spontaneously in the economy and, secondly, discrete [8]. Special place in the study of economic category "development" is "enterprise development".

The development of an enterprise can be determined from an evolutionary point of view as an objective change of only qualitative characteristics of the system due to fundamental laws of nature (unity and the struggle of opposites, the transition of quantity into quality, the development of society in a spiral and upward), as well as the regularities of the functioning of specific systems (aging of equipment, gaining experience and knowledge of employees, depletion of natural resources), in which new properties of the system are formed.

Under development, a process that is based on the results of scientific and technological achievement, which contributes to the development of productive forces and to meet the needs of society in high quality goods, can be considered. The development process is directly related to the increase in the degree of efficiency,

improvement of business processes or management, resulting in a quantitative or qualitative increase in the useful result compared to the previous level. However, this definition has the disadvantage that the focus is only on the scientific and technical aspects of development and the authors make a clear distinction between the concepts of growth and development [1]. In addition, the authors focused only on qualitative changes, which can be caused by both external and internal patterns, abstracting from the quantitative characteristics and structural changes that the author believes also take place.

The constant political and economic instability in Ukraine increases the level of uncertainty of the external environment in which domestic enterprises operate. The high level of competition, the inability to adapt quickly and achieve the expected result drives business entities to self-survival. Nowadays, it is not enough for businesses to adapt to changes in the external environment, they must anticipate and prevent these changes in advance. The positive result of economic activity in the conditions of economic and political crisis is facilitated by the choice of priority directions of activity and strategy of enterprise development. Analysis of the scientific literature in the field of strategic management reveals the existence of different points of view of the category "enterprise strategy". Domestic scientists in their works [26; 27; 41] view strategy as a long-term, well-defined course of enterprise development, or a way to achieve the goals it sets for itself, following its own decisions and considerations within its policy. The strategy describes prospective landmarks of the enterprise based on an assessment of its potential resources and planning for the further development of the external environment.

Systematizing different views on the definition of "strategy", there are several options: a set of rules or actions to make or make decisions that will be followed by the enterprise in its activities, to achieve certain goals; a detailed comprehensive plan or program of actions and activities to achieve concrete results; long-term strategic direction or set of directions of enterprise development.

The result of the implementation of the strategy in the first two options is to obtain predefined horizons or specific results. The third option is more capacious,

because it allows to consider the achievement of the stated goals as a process of enterprise development, and the implementation of a specific program as one of the stages of enterprise development.

Any strategy of the company will be constantly focused on further development.

The development of an enterprise consists in a set of changes that lead to the emergence of a new quality and strengthen the vital system, its ability to resist the destructive forces of the external environment [8].

Development provides the company with new capabilities, properties, qualities and characteristics that contribute to the ability of the company to perform new functions, to solve significantly other tasks that strengthen its positioning in the external environment and increase the ability to counter its dangerous influences. Economic development is the irreversible orientation of objects to create material or spiritual benefits, resulting in a qualitatively new state of the object, including the change in the composition and structure of these benefits. These qualitative changes are in the process of economic growth. At the same time, the quality of consumed resources and the production of these goods are increasing. Therefore, for the enterprise, development is a constant process, manifested in the implementation of quantitative and qualitative changes, which increases its potential, increases the ability to counteract the dangerous influence of the external environment and increases its viability.

The literature traces the relationship between the concepts of "enterprise strategy" and "enterprise development". On the one hand, the development of the enterprise is noted as a result of the strategy, on the other - the strategy is a tool that ensures the development of the enterprise. In our opinion, the opinion of scientists who consider the development of the enterprise as a result of the implementation of its strategy, more perfectly reflects the meaning of the concept [45].

All of the above allows to define the strategy of enterprise development as a purposeful course of enterprise development in the future, which provides a qualitatively formulated sequence of actions depending on the goals and necessary

resources, which will allow to transform quantitative and qualitative parameters of the enterprise, which will increase its potential, multiply its ability to counteract dangerous influence of the external environment and increase its competitiveness. Enterprise development strategies are mostly long-term oriented and require investment, which is characterized by an appropriate level of risk.

Risks should be taken into account when formulating a development strategy. The main factors of negative impact include: inadequacy of external market development conditions; reduction of results of efficiency of activity of the enterprise; loss of control over risks; the possibility of losses due to lower quality of assets; excess investment; inconsistency of the structure of the production system with the potential scales of activity, etc. [26; 27]. In addition, not all managers have the capability to take risky operations, so situations often arise when projects are rejected even at minimal risk.

Given the long-term nature of the implementation of the development strategy, it is necessary to lay in advance the ability of the company to take appropriate action to change the market situation. Identifying opportunities for enterprise development is based on a thorough diagnosis of the internal and external environment.

The key to successful implementation of the enterprise development strategy is its innovative direction. Each development strategy is focused on positive results (increase of profits, increase of profitability of activity), which will contribute to increase of competitiveness of production of the enterprise as a whole [38]. Therefore, an enterprise development strategy can be described as a long-term flexible plan of innovative action with an appropriate level of risk, based on a detailed analysis of the internal and external environment of the enterprise, depends on human factors and requires investment to achieve effective results, increase the competitiveness of products and the enterprise.

The approaches to the essence of “enterprise development strategy” are presented in Table. 1.1.

Table 1.1

The list of approaches to the essence of "enterprise development strategy"

#	Essence
1	Providing effective ways of using resources and reserves of the enterprise for the most effective implementation of the enterprise strategy at all stages of development.
2	Provides planning and decision-making processes that set the goals of the enterprise and develop a strategic plan.
3	A long-term program that aims to achieve a constantly monitored goal is evaluated and adjusted in the process of its implementation.
4	This integrated concept, which combines strategic directions of development (alternatives) and functional management strategies, is a set of long-term norms, guidelines, areas, spheres, methods and rules of activity that ensure the confident movement of the enterprise, its growth and high competitiveness. which strengthens the position in the market, increases the ability to survive in the market.
5	It is a holistic reflection of the goals and means of economic development of any enterprise in the long run.
6	A program of action to achieve a strategic goal through the fairway of the enterprise's paths of activity, composed of vectors of development focused on the equilibrium points of paired external factors.
7	Logical and analytical substantiation of the perspective position of the company depending on external conditions.

*Compiled on the basis of [1; 8; 26; 27]

The main characteristics of the development strategy are presented in (Fig. 1.1).

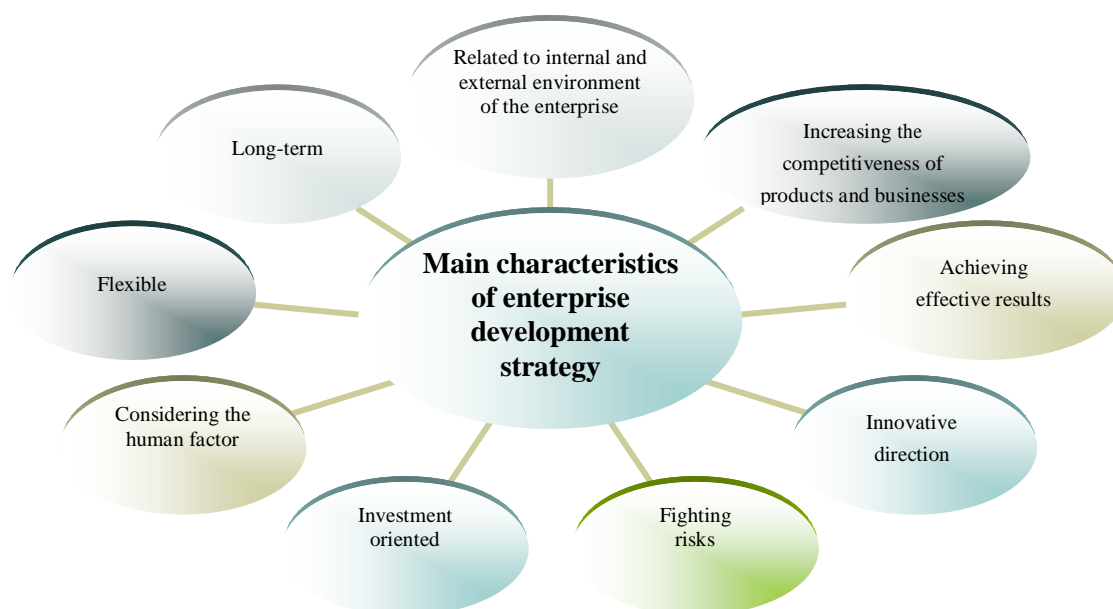


Fig. 1.1. Key characteristics of the development strategy [26]

The study of periodicals revealed that enterprise development strategies can be grouped into two groups: active strategies and passive strategies.

Active strategies include:

- rapid enterprise action to change the market situation, efforts to outstrip competitors;
- flexibility of all processes occurring at the enterprise;
- the possibility of intensive use of all types of labor resources, energy, raw materials, equipment;
- constant search and introduction of innovations in production, marketing and management activity [63].

Passive enterprise development strategies involve following competitors, reviewing activities in the event of such a need, and are thus less risky and may even be less costly.

1.2. Studying main directions of strategic development of the enterprise

In order to achieve continuous growth of volumes of activity the enterprise must form its own development strategy. The enterprise strategy is the process of formation of the general perspective direction of development of the enterprise on the basis of definition of qualitatively new goals, coordination of internal capabilities of the enterprise with the conditions of the environment and development of a set of measures that ensure their achievement.

Principles of strategy development:

1. Orientation to the long-term global goals of the enterprise as an economic system and economic interests of its owners.
2. Multiple variants of possible directions of development, which is caused by the dynamic environment of the enterprise.
3. Continuity of strategy development, constant adaptation to changes taking place in the internal and external environment.

4. Complexity of strategy development, coherence of strategic decisions on separate directions of activity of the enterprise, types of resources, functions, etc. [54; 72].

In the process of substantiation of perspective directions of functioning of the enterprise various types of strategies can be formed, which can be classified on the following grounds:

1. Depending on the scale of development:

- general (general) strategy;
- supporting (supporting) strategies.

2. In the areas of activity develop the following types of support strategies - marketing, production (operational), financial, investment, strategy for the implementation of other areas and activities.

3. Depending on the type of resources being managed, ancillary strategies for the formation and use of manpower, fixed assets and material resources, the formation of equity, borrowing capital and other necessary resources for the enterprise are developed.

4. Depending on the pace of development distinguish strategies:

- accelerated growth strategy - envisages a significant increase in the short- and long-term goals beyond the targets. Such a strategy is characteristic of developing and high-risk businesses;

- limited growth strategy - a characteristic setting of goals achieved. Such a strategy is typical of businesses that are mostly satisfied with their position, profitable and efficient;

- strategy of maintaining the position - is focused on ensuring the stable position of the company in the market, strengthening its market positions. Indicators of enterprise activity are determined based on the forecasted rates and the nature of the enterprise market activity change;

- reduction strategy - is adopted when the performance of the enterprise continues to deteriorate, with the economic downturn and the risk of bankruptcy [47].

The enterprise strategy has several levels of decomposition, each of which corresponds to the strategy of a certain rank, that is, the enterprise strategy has a hierarchical structure.

The strategy hierarchy means the ranking, interconnection and subordination of the various strategies that make up the enterprise strategy.

In a multi-business enterprise (multidisciplinary, diversified, producing various types of products), use a four-level strategy, which includes [12]:

- Corporate (general) strategy, which is both portfolio-based. Competitive (business, business) strategies.
- Functional strategies. Operational strategies.

In a one-business enterprise (narrow-profile, producing the same type of products), use a three-level strategy, which includes:

- Corporate strategy, which is simultaneously competitive (business, business).
- Functional strategies. Operational strategies. The corporate (general, portfolio) strategy occupies the highest level in the hierarchy. It defines the general direction of the enterprise, one of the following: either a strategy of growth, or stabilization, or reduction.

- Competitive (business, business) strategies are corporate, indicate ways to achieve the direction it chooses in each CSB (strategic business unit) and represent a plan to conquer strong long-term competitive positions (benefits). These strategies are also called business strategies or competitive strategies [8].

Functional strategies are developed for each functional area of activity: production strategy, marketing, financial strategy, strategy of research work, strategy of personnel management, etc. Functional, prove corporate and competitive strategies specify strategies for functional services of the economy. At the same time, functional units significantly affect the formation of corporate and competitive strategies.

Operational strategies are narrow strategies for the main structural subdivisions of the enterprise that are not independent: factories that are part of the company, shops, brigades, departments, dealers, etc. This is the lowest level of enterprise

strategy that is associated with strategies that are ranked in the highest hierarchy: corporate, competitive, functional level.

Each of the above-mentioned levels forms a strategic environment for the lower level and limits it to something.

Formation of enterprise strategy is a process that takes place in certain stages [54; 72].

At the first stage of enterprise strategy development, they analyze the environment, predict its future development, identify opportunities and threats, strengths and weaknesses, assess competitiveness and predict its changes.

At the second stage or in parallel (at the newly created enterprise - the first) determine the mission, purpose and objectives of the enterprise.

In the third stage, carry out a strategic analysis, which is to compare goals and objectives with the results of the analysis of the environment, identify and eliminate the gap between them and, most importantly, in the development of alternative strategies - options for strategic development.

In the fourth stage, variable scenarios of the development of events (optimistic, pessimistic, and most probable) are modeled and the influence of each on the formulated alternative strategies is explored. The competitiveness of an enterprise in case of implementation of a strategy in a certain scenario is determined.

At the fifth stage a choice of the most acceptable alternative strategy is made.

On the sixth - the final version of the strategic plan of the company is being prepared.

At the seventh stage, tactical medium-term plans are being developed on the basis of the strategic plan.

Finally, at the eighth stage, operational plans and projects are being developed, and this process of strategic planning is completed. The process of implementing the strategic plan, that is, the process of strategic management, begins. It involves not only the organization of the implementation of the strategy (Stage 9) but also its practical assessment, implementation control (Stage 10), and feedback, if errors are detected, shortcomings in the formation of the strategic plan at any of the stages.

Sometimes such feedback involves partial changes to the mission and goals if they were to some extent unrealistic. By the way, feedback is possible at any of the stages of strategy formation. All this testifies to the fact that the formation and implementation of the strategy constitute a single process [72].

Moreover, it is continuous, since the environment, and, therefore, and the conditions of the enterprise's activities are constantly changing, the strategic plan is regularly adjusted.

The strategy is a specific management plan aimed at achieving the goals set. It determines how the organization will function and develop, as well as which entrepreneurial, competitive and functional activities and actions will be taken to ensure that the organization has achieved the desired status.

In the scientific work of I. Ansoff the following concept of strategy is given: "By its essence, the strategy is a list of rules for decision-making, which the organization uses in its activities." The strategy here is the core around which all types of industrial and economic activity are concentrated. In addition, the strategy is sometimes seen as a "bluff" or "cunning maneuver", which defines it as a tool of a certain type to win the competition [8].

Summing up the overall strategy, it should be noted that there is no generally accepted and consistent definition. Each definition adds important elements to our understanding of the strategy, prompting us to put fundamental questions about organizations and their development in general. So, the strategy [1; 8; 63]:

- defines the main directions and ways of achieving the goals of strengthening, increasing and ensuring the survival of the organization in the long run, based on concentration of efforts on certain priorities;
- is a way of establishing the company's interaction with the external environment;
- is formed on the basis of very generalized, incomplete and insufficiently accurate information;
- is constantly updated in the process of activity, which should be facilitated by a well-established feedback;

Due to the multi-purpose nature of the company's activity, it has a complex internal structure, that is, one can raise the question of creating a strategic system in the form of a strategic set; is the basis for the development of strategic plans, projects and programs that are a systemic characteristic of the directions of enterprise development; is an instrument of inter-functional integration of enterprise activity, a way to achieve synergy; is the basis for the formation and implementation of changes in the organizational structure of the enterprise, a generalized core of activities at all levels and units of the organizational structure.

Each process or phenomenon can give only what is in their potential. The strategy is a multi-faceted and very effective act of the enterprise, which, incidentally, is not a panacea for all the problems of the enterprise. Therefore, it is very important to clearly identify what exactly should not be expected from the strategy.

What a strategy does not give: immediate result; 100% prediction of the future, which would provide "exceptionally correct decisions" in the current period; sales of goods in the planned volumes; the provision of necessary quantitative and qualitative characteristics of resources at low prices is precisely those suppliers that were predetermined; 100% implementation of all strategic guidelines; definition of the standard list of actions and stages of strategy development for all without exception of subjects of economic activity; obligatory survival of the enterprise in the long run [58].

An analysis of enterprises in a market economy has made it possible to distinguish factors that have the most significant impact on the content of the strategy: customer needs; availability of the opportunity and period of implementation of the necessary innovations of different types; availability of necessary resources; Possibilities of using own and attracted investments; the level of the current technology and the possibility of its modification; type and scale of use of modern information technologies; personnel potential, etc.

Investigation of factors does not always prevent mistakes. So, M. Porter notes that "the picture of the content of corporate strategies is rather gloomy." This is due to a lack of substantiation of the company's strategy [63].

The development strategy lays out the prospects of the enterprise development and determines its positioning in the market. At the same time, such a strategy should be flexible to make appropriate adjustments that will enhance or retain effective enterprise performance. The basic characteristics of the development strategy, based on which the strategy of enterprise development is proposed, to understand the long-term flexible plan of action of innovative direction with the appropriate level of risk, which is based on a detailed analysis of the internal and external environment of the enterprise, depends on human factors and needs investments for achievement of effective results, improvement product and enterprise competitiveness. It is suggested to classify development strategies as active and passive [8]. The purpose of active strategies is to outperform competitors, to introduce innovative solutions in production and management activities, such strategies are more risky and require considerable investment. The active strategies include an offensive strategy and a market niche strategy. The purpose of passive strategies is to imitate competitors, such strategies are medium-risk and require slightly less investment. The passive strategies include passive offensive and defensive strategies.

The choice of strategy is driven by the goals of the organization (light or complex), the risk the company faces, the external and internal environment of the enterprise. Distinguish between active and passive strategies (Fig. 1.2).

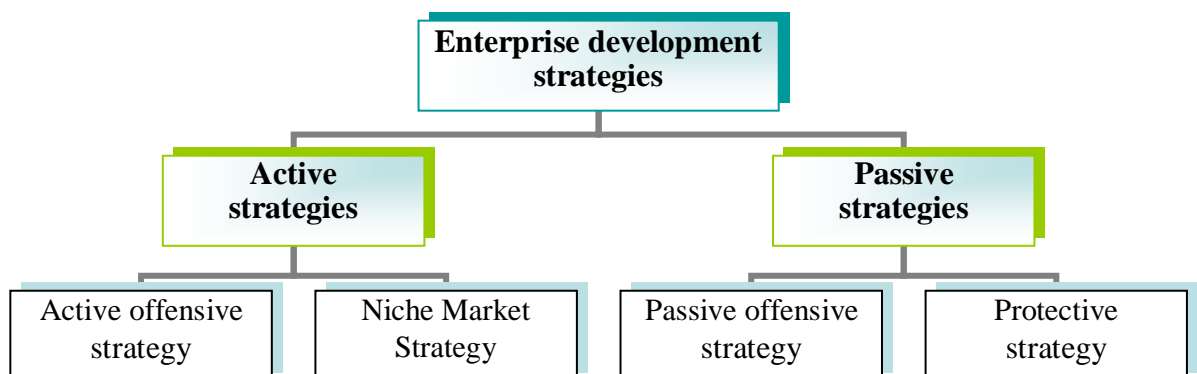


Fig. 1.2. Active and passive strategies [8]

An active (offensive, expansive) strategy is characterized by:

- 1) Diversification (continuous expansion of the enterprise).

2) Technology orientation (the company develops new products and then evaluates market opportunities).

3) Perseverance (the desire to outperform competitors in the production and sale of new products).

Passive (reactive) strategy is characterized by:

1) Concentration of activity of the enterprise in a certain area.

2) Market orientation (the enterprise first examines customer requests and then identifies technological capabilities to develop a product that can satisfy those requests).

3) Defense (an enterprise protects its market share by updating products in response to competitors' actions) [12; 47].

Passive strategies can take two forms: receptive and adaptive.

Receptive strategy is characterized by the restriction of innovation, the use of proven management decisions and methods.

The adaptive strategy is intended to be maintained among innovative enterprises through the immediate use of new solutions, models and the like.

Depending on the position in the market (the position of the market leader, the position of the organization that defies the market environment, the position of the follower, the position of the organization that knows its proper place in the market) different strategies of competition are applied.

Formation of strategies is considered as one of the essential components of strategic management and involves identifying the peculiarities of the process of creating separate strategies and "strategic set".

Any model of organization management is based on an appropriate concept. Implementation of the concept of strategic management of an organization is possible only when the organization is strategically oriented. A strategically oriented organization is an organization in which the staff has strategic thinking, a system of strategic planning is used that allows it to develop and use an integrated system of strategic plans, and current, day-to-day activities, subordinated to the achievement of the set strategic goals [31].

The formation of a company's strategy is a process that is taking place in certain stages (Fig. 1.3).

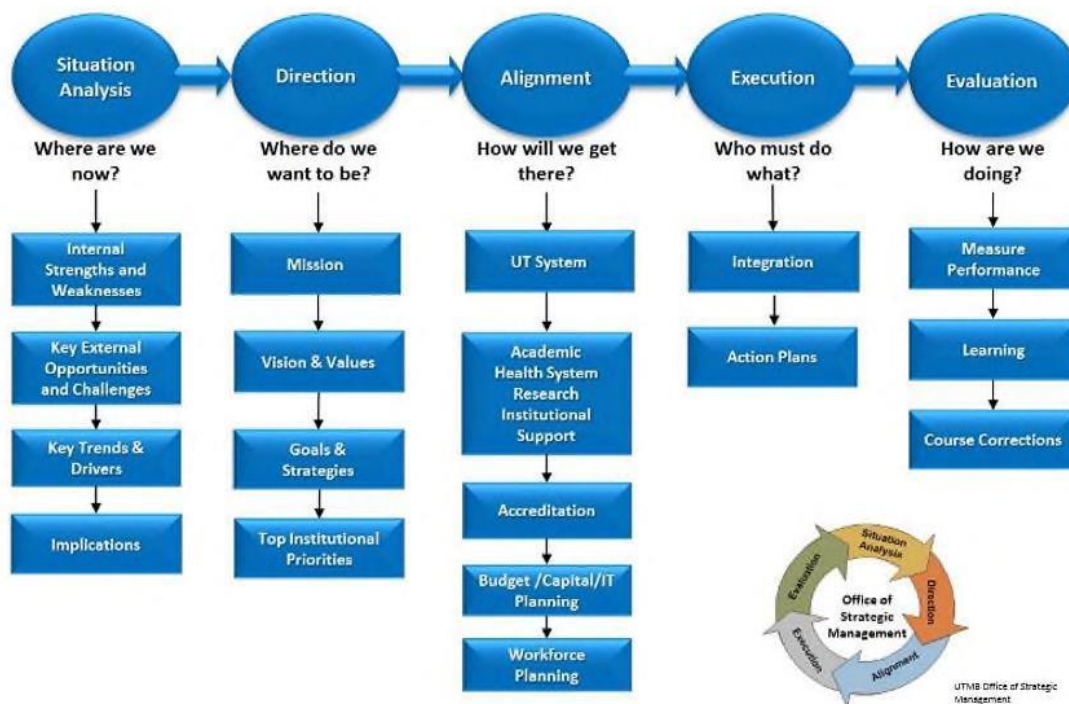


Fig. 1.3. Strategic planning process stages [24]

The proposed algorithm combines both the main functions in the development and implementation of enterprise strategy, and the most important actions for their practical implementation. Let's consider each of the following steps in succession and find out their general characteristics.

Given that the strategy is a way to achieve the goal formulated in the form of a goal, it can be argued that the formation of strategies is a process in which managers set up a mission, formulate a system of goals, choose strategies, and predefine all components (components) of the strategic management process. With regard to choosing a strategic management model, there are some difficulties. In the process of developing the theory of strategy, different researchers have proposed different approaches.

When the enterprise starts a strategic planning process, starting point is, as a rule, the formation or review of the mission of the enterprise. It is interesting that

everything starts with the mission of the enterprise, but in order to develop it, it is necessary to understand other elements of the strategy of the enterprise. In particular, to analyze the internal capabilities of the enterprise (production, production potential, etc.) and assess the external environment (competitors, suppliers, substitutes, etc.). That is, the work on the mission of the company begins after most of the work on drafting the company's strategy has already been completed. In other words, the mission of the enterprise is developed only when the planning process has already been completed and approved by the management of the enterprise [89].

The mission should include the vision of what the company wants to become, a clear idea of what the company is trying to offer its customers, and declare its intention to serve a specific market segment.

The starting point of long-term planning is setting target indicators. In a stable economy, the source data for this purpose is long-term experience, average rates of economic development, lending conditions, shareholder requirements for return on shares, national characteristics, and competitive ambitions. In a transition economy, special research is needed to collect information.

Setting goals in a generalized form involves the passage of four mandatory stages [72]:

- identification and analysis of trends that can be observed in the environment;
- establishment of the overall goal of the organization; building a hierarchy of goals ("goals trees");
- the establishment of individual goals and tasks as a means of ensuring their implementation.

Goals should be clearly articulated and quantified. For example, there should be financial goals that can be set, identified, evaluated, and documented. This is the volume of sales for products and services, the level of profitability, profit, etc.

To develop and implement its own strategy, the subject of the economy must have sufficient economic mass and high economic mobility. The economic mass should allow it to withstand the impact of dynamic and uncertain external environment, strictly adhere to the strategic course. Economic mobility creates

conditions for effective maneuvering under conditions of change, skilfully evade the "ninth wave" of the market element, using the hidden possibilities of the environment and the speed of movement [8].

It is clear that the economic mass and mobility are determined by the resources of the enterprise. In different spheres of the economy, they differ both in terms of content and content. The role of resources is fundamentally important because resources are the potential of the organization. Hence, the organization's potential is a system of interconnected and to some interchangeable boundaries, organized in a certain way and aimed at achieving the set goals, resources, which, in turn, form separate production and management subsystems of the enterprise.

The substantiated forecast of external transformations and consequences of their influence on the internal environment of the enterprise allows its management to prepare for changes in the conditions of management, to develop the necessary directions of adaptation.

The greatest effectiveness of using the developed methods of adaptation is achieved by timely manifestation of external changes, which requires the establishment of an enterprise environmental monitoring system [70].

After the two previous stages, information has been formed on the internal capabilities and resources of the enterprise, as well as on the effects of environmental factors, their strength, magnitude and significance. These data are a prerequisite for conducting an assessment and selection of strategic areas of management. The most convenient tool for this work is SWOT-analysis. Such an analysis should be carried out in order to identify and eliminate existing weaknesses, increase capacity and avoid possible threats [38].

The next step is to compare strategic activities and select a basic strategy. The basic strategy is determined taking into account numerous factors - the field of management, the nature of the goals, the internal structure, etc. Matrix analysis tools are used to justify the underlying strategy, indicating the place of the enterprise in relation to the main products, the main markets, competitors, etc. Then form a competitive strategy. On the basis of the chosen competitive strategy, functional

strategies of the enterprise are formed: innovative, production, marketing, social, organizational and financial.

The tool by which the developed strategies will be implemented is the organizational structure of the enterprise. The strategy can limit the development of the enterprise, that is, the strategy and structure - one-planetary phenomena. These elements are interacting, varying. Changes in the structure follow the strategies. After changes in the organizational structure of the company begins the next cycle: the strategies are changing as a result of changes in strategic thinking, due to the new stage of development [41].

Since the organizational structure of an enterprise should not be more complex than it is necessary, based on its size, nature of activity, technology and territorial location, most economic entities operate within the framework of simple organizational structures. In this case, strategic aspects of the functioning of organizational structures remain for them in the shadow, objectively complicating the development and implementation of economic strategy.

Consequently, special attention should be paid to the organizational and structural strategic potential of the enterprise. Linear and functional organizational structures of most economic entities overload the top management with the solution of current tasks, not allowing sufficiently focus on the strategic problems of the organization. If to add to this inherent unwillingness to "share" with the subordinates inherent in domestic management, it will become clear why many managers objectively lack the strategic direction of action [63].

The task of implementing the strategy is to ensure the creation of a strategic success potential, on the one hand, and turning it into strategic success factors - on the other. Creating and maintaining the potential for success is closely linked to the concept of organizational learning. It is on the dynamic markets that the ability to faster than competitors is considered learning as the sole source of sustainable competitive advantage. The transformation of strategic potential into strategic factors of success is the task of strategic management, since this transformation is a key issue for many enterprises.

The implementation of the chosen strategy involves the activities of the management, aimed at modernizing, if necessary, the management system, bringing it in line with the strategic objectives of the firm's organizational structure, allocating the necessary resources, and training the personnel. In other words, strategic management is formed in such a way as to help the management of the organization to anticipate trends in business development, to monitor the external influence on the organization [64].

The final stage of strategic planning is that after implementation of the strategy its effectiveness is evaluated, as a result of which the objectives of the enterprise can be reformulated [8].

Ensuring strategic development of an enterprise is impossible without achieving a balance and directing the work of all its units to achieve a single goal. The solution of this task is contributed to the development of a general strategy of the enterprise, which makes it possible to identify and coordinate the strategies of its divisions, orienting them towards achieving the overall goals of the enterprise.

1.3. Features of business activity optimization of the enterprise

Business optimization is the process of identifying and implementing new methods that make the business more efficient and cost effective.

Optimization means an act, process, or methodology of making something (such as a design, system, or decision) as fully perfect, functional, or effective as possible specifically: the mathematical procedures (such as finding the maximum of a function) involved in this [60].

Business process optimization is the practice of increasing organizational efficiency by improving processes. It's a part of the discipline of business process management (BPM). Optimized processes lead to optimized business goals. Some examples of optimization include: eliminating redundancies, streamlining workflows, improving communication and forecasting changes (Fig. 1.4).

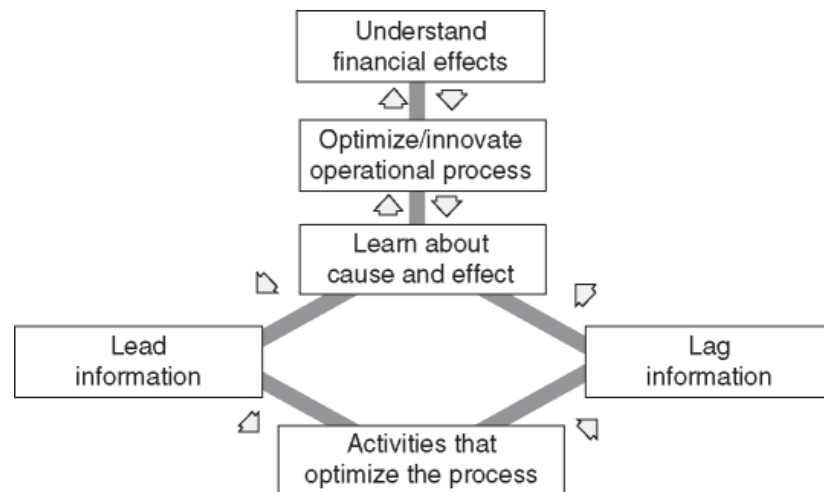


Fig. 1.4. The model of business process optimization [39]

Optimizing business processes offers many benefits that can help businesses stay afloat in the tidal waves of change such as:

- market compliance
- streamlined operations
- reduced risks
- well-utilized resources
- consistency
- assured quality
- end-to-end visibility [39].

Business optimization is the process of identifying and implementing new methods that make the business more efficient and cost effective. Examples of business optimization include:

- introducing new methods, practices and systems that reduce turnaround time;
- reducing costs while improving performance;
- automation of repetitive tasks;
- machine-learning techniques that improve equipment operation;
- increasing sales through enhancing customer satisfaction;
- reducing all kinds of waste such as wasted time, scrap production and repeat work.

Key elements of business optimization include:

- measurement of productivity, efficiency and performance;
- identifying areas for improvement;
- introducing new methods and processes;
- measuring and comparing results;
- repeating the cycle [13].

The purpose of optimization is to achieve the “best” design relative to a set of prioritized criteria or constraints. These include maximizing factors such as productivity, strength, reliability, longevity, efficiency, and utilization.

Optimization methods have had successful applications in business and public services. The optimization plays very important roles especially in business because it helps to reduce costs that can lead to higher profits and to success in the competitive fight.

Resource optimization is the set of processes and methods to match the available resources (human, machinery, financial) with the needs of the organization in order to achieve established goals. Optimization consists in achieving desired results within a set timeframe and budget with minimum usage of the resources themselves. The need to optimize resources is particularly evident when the organization’s demands tend to saturate and/or exceed the resources currently available [36].

When a company is managed using a systemic approach, resource optimization is strictly linked to the concept of constraint and a systemic vision of the company. Indeed, without a systemic vision of the company we are unable to identify the global effectiveness of resource allocation and we run the risk of using resources available mainly to respond to emergencies that daily occur in the various parts of the organization.

Resource optimization means to:

- Have a shared vision of the global goal to be achieved (remove unnecessary protection from individual tasks).
- Eliminate multitasking (increased effectiveness in the tasks).
- Identify the constraint (the critical chain) and protect it with a buffer of time (thus protecting the project from variation).

- Carefully manage the operational phases of the project (capitalize on time gained).

- Carry out a statistical analysis of the project buffer consumption using Statistical Process Control, SPC (more effective project management) [36].

The right way to manage the system is through a very precise process:

- identify the constraint of the system -this is the element of the system that limits its ability to generate value, and can be also chosen strategically;

- exploit the constraint; make sure the constraint works all the time; every second lost at the constraint, is throughput (money in a for-profit environment) lost forever;

- subordinate to the constraint; the entire system has to be built and designed in order to allow the constraint to work properly [66].

Rather than working piecemeal at fixing sporadic problems, it is better off using a strategy to systemically address different aspects of your operations.

Different strategies that can help optimize business operations and free up resources that the company could better use elsewhere.

1. Go lean. Lean is an operational philosophy that focuses on continually improving activities that lead to delivering the products and services customers, internal and external, value. By enacting practices that add value and avoiding practices that don't, a company makes its operations more efficient.

2. Focus on quality. There have been multiple versions of quality management in business theory over the years, such as statistical process control, the total quality management movement popular, or practices like Six Sigma. Originally intended for manufacturing, these practices have expanded into many operational aspects of companies. The idea is to reduce waste and rework, saving money in the process, and to improve results, making the company more effective.

3. Improve forecasting. Whether selling products and services, purchasing and managing inventory, controlling a supply chain, or properly staffing, any company tries to forecast demand and capability. Many companies are poor at forecasting, however, meaning that they are either unprepared to meet market demand or they waste money and activity on maintaining overcapacity. For middle market

companies, there are sophisticated tools and extensive knowledge available to improve forecasting of all sorts.

4. Introduce customer-centric thinking. Management teams are often fond of saying how their companies are customer-centric. Think about own experience as a consumer and then consider how many companies actually do put the customer first. A customer-centric approach to business is actually incredibly efficient. Ultimately, it is customers and their perceptions of and attitudes toward a business that decide its fate. Focus operations and strategy to embrace customers and make them happy, and the company is on the fast path toward business success.

5. Try some old-fashioned business-process reengineering. At one time, business-process reengineering was one of those periodic management fads. Companies were going to rework their operational processes to become more efficient. As many such fads go, it was often too much talk, too little action. And yet, the idea hasn't lost its validity. Business processes tend to develop over time. As conditions change, companies keep adapting and adding to them. By the end, a company has a clumsy process in place that was designed by committee. But by truly reengineering, companies can pinpoint the wasteful processes concerning how they do business and develop more effective procedures. While reengineering business processes, there is a need to remember to get frontline employees involved. They're the ones who actually know how things happen, and they might even have input into how you could make them better [58].

Thus, managing the process of improving the business activity of enterprises with the introduction of various optimization measures in a dynamic macro and micro environment requires the development of a clear adapted model of the continuous optimization process.

PART 2. ANALYSIS OF BUSINESS ACTIVITY OF THE STATE ENTERPRISE “INTERNATIONAL AIRPORT “BORYSPIL”

2.1. General characteristics of the State Enterprise International Airport “Boryspil”

Aviation transport is the most promising for the development of interaction between the state and business in the economy, because it is the youngest (the actual development began before the Second World War) and therefore more flexible to the application of modern market instruments and schemes. Aviation serves almost all points of the globe and the main task of the industry is to ensure the rapid and sustainable development of aircraft and infrastructure, to adapt existing capacities to new opportunities for their operation.

Boryspil International Airport State Enterprise is the largest and the busiest airport in Ukraine. It provides 62% of the passenger air traffic of Ukraine, and following the results of 2018, it has handled 12.6 million passengers.

Boryspil International Airport is a state commercial enterprise of civil aviation, founded on a state ownership and is subordinated to the Ministry of Infrastructure of Ukraine.

Boryspil is well located at the intersection of many air routes connecting Asia with Europe and America. More than 25 national and foreign airlines carry from Boryspil passenger and cargo transportation on 75 regular routes around the world.

Due to the active policy of air carriers' attraction, over 60 national and foreign airlines operate flights to the Airport on more than 120 routes worldwide.

Boryspil Airport is the only airport of Ukraine, successfully competing with the large European hub airports. According to the Airports Council International (ACI EUROPE), in 2018 Boryspil was ranked first among the large European airports (top spot in the European Airports group, handling from 10 to 25 million passengers).

The Airport is a full member of the core international and national associations, such as ACI EUROPE; UATA, Ukrainian Chamber of Commerce and Industry, Ukrainian Association for Quality, Transport Enterprise Employers Organization, Association of Taxpayers of Ukraine etc, and is guided by the standards and practices of the IATA, the ICAO [57].

Boryspil is the largest and the busiest airport in Ukraine, providing most of air passenger traffic and much of cargo transportation.

Demand for the Airport services is maintained by the beneficial location at the intersection of numerous international transport routes (connecting Asia with Europe and America), proximity to the capital, availability of the modern infrastructure and introduction of the hub development strategy.

The Airport infrastructure includes two runways (4 km and 3.5 km long), allowing accommodation of all aircraft types, without limitations under weather and visibility conditions, as well as 2 full time operating terminals (D and F). Boryspil is the only airport in Ukraine, from which scheduled transcontinental flights are operated.

Boryspil Airport is constantly striving for improvement. The Airport develops infrastructure, attracts new airlines and enhances the quality of service. In 2019, the Cabinet of Ministers of Ukraine approved the Concept of Boryspil International Airport Development for the period till 2045, the main priorities of which is infrastructure development and introduction of contemporary services.

With the development of jet aviation in the late 1950s, the requirements for quality of infrastructure increased. The leadership of the Ukrainian Soviet Socialist Republic and Civil Aviation Authorities were faced the issue of constructing an airport, capable of handling the aircraft with weight over 100 tonnes. In order to comply with safety standards and overcome restrictions for city airports, it was decided to build a new airport near the Air Force Complex next to the town of Boryspil. The availability of a highway there as well as a hard surface type runway and the possibility of a temporary base in common with the military was a great benefit.

On June 30, 1959, order No. 265 «On Establishment of a New Airport» was signed by the Head of the Civil Aviation Authority. And on July 7, 1959 the first flight was accepted. During the first year of its activity, which was initially carried out in field conditions (six tents) and later in temporary premises, Boryspil Airport took third place in terms of passenger traffic among Ukrainian airports (after Simferopol Airport and Zhuliany Airport). Since 1960, Boryspil Airport started handling of international flights to Budapest, Vienna and Sofia [57].

In 1961 Kyivproject Institute developed the design of the Airport terminal. Construction of the new terminal in Boryspil continued for three years. Earthworks were carried out simultaneously all over the whole perimeter of the terminal. The ground part was built in two stages: at first, the left and right wings were built, then the construction of the central part with the dome began. The terminal construction project covered an area of 20,300 m². The length of the terminal reached 230 meters, the width – 50 meters, the volume – 107 500 m³ and the capacity – 1600 PHP. The main component of the terminal was the space under the dome. It consisted of concrete slabs each measuring 8.1 × 2.6 m weighing up to 5 tons. To raise the plates, the crane had to be installed on an earth embankment 7 meters high. The ceiling of the dome was covered with 1100 special acoustic panels (weight of each – 80 kg).

On May 20, 1965, Terminal B was unveiled and put into operation. The Airport runway was equipped for the automated landing of aircraft at Cat I. At that time, the capacity standards for international flights amounted to 200 passengers and for domestic flights – 1,400 passengers. Boryspil Airport was the second largest airport of the country after Domodedovo Moscow Airport and one of the largest in Europe.

Every year the number of passengers was rapidly increasing. This necessitated the construction of the second runway. In 1971, the second runway 18R / 36L 3.5 km long was launched. In addition, the following facilities were built: radio-electric workshops, a laboratory building of the ATB, a rescue station, a complex of secondary radar and radio navigation equipment and many other facilities.

In 1982, the construction of the automated air traffic control system in Ukraine, named “Strila”, began. It covered the entire territory of Ukraine and sufficiently facilitated the work of air traffic controllers and crews.

By 1990, Boryspil Airport had the best KPI among the Ukrainian airports. The crisis after the collapse of the USSR affected the Airport business. Thanks to the investors, it became possible to avoid the company close down. In September 1990, the Cabinet of Ministers of Ukraine issued a regulation «On the Reconstruction of Boryspil Airport» that was of historic importance [57].

Pursuant to the Regulation, 60% of costs would be obtained from the investing companies. It provided a new impetus for the enterprise development: on 11 March 1993, Boryspil Airport became a State International Airport.

1 April 1993 was the date of the second legal establishment of Boryspil Airport. In accordance with the order of the Minister of Transport of Ukraine, Boryspil State International Airport was founded onsite Boryspil Aviation Enterprise as a legal entity, as well as Regional Central Offices of Ukrainian Airlines and Kyivcenteraero enterprise. It was also the year of a large-scale Terminal B reconstruction.

In 1995 Terminal C was opened for VIP passengers handling. In 1998, the President of ICAO (International Civil Aviation Organization) Dr. Assad Kotaite officially confirmed the status of the Airport training center as ICAO Aviation Security Training Centre.

In 2001, Runway No.1 was reconstructed. Funds were provided by the European Bank for Reconstruction and Development. It was the first EBRD credit for Ukraine. The previous runway was designed to carry liners with weight up to 47 ton, whilst after the mentioned reconstruction it was able to service any types of aircraft. Runway No.1 complies with ICAO requirements of III A category.

On September 2010 Terminal F was opened, the passenger throughput capacity of which amounted to 900 arriving and 900 departing passengers. This terminal was built as a temporary terminal with further modification to the cargo terminal, as at that time Terminal B was the only to handle regular flights, which was overloaded.

Meanwhile, Terminal D was under construction, the terms of construction of which were constantly shifting.

In October 2013, as a result of a large downfall in the air transportation volumes, the management of the Airport decided to conserve Terminal F and transfer all international flights to Terminal B.

Terminal D was officially commissioned on 28 May 2012, and international flights were eventually transferred there. At the same time, domestic flights were still operated from Terminal B. Thus, Terminal D was operating with the minimum load for a long time. The reason was the necessity of reconstruction of the terminal to separate the flow into domestic and international flights.

At the beginning of December 2014, Terminal B was conserved and flights of all air carriers (both domestic and international) were transferred to be handled at Terminal D.

On 30 November 2018, Boryspil Airport was linked to Kyiv city via railway, enabling passengers to reach the city, avoiding road traffic jams.

At the end of March 2019, as a result of a high Terminal D load during the peak hours, Terminal F was reopened. This infrastructural object enabled expansion of ability to attract new air carriers, operating within different business models. In particular, it was more suitable for implementation of the low-cost technology of on-foot boarding. As a result, the Airport provided more flexible flights servicing, implemented technologies of regular, low-cost and charter carriers.

Boryspil International Airport passenger flow has been demonstrating stable growth as a result of the reforms, optimization of internal processes and implementation of the hub development strategy, since 2015.

By the results of 2016, total passenger traffic amounted to 8.65 million passengers, with the transfer passengers share amounting to 2.31 million.

In 2017, the Airport passenger traffic amounted to 10.6 million also the results of 2018 – 12.6 million passengers and according to 2019 the results amounting to 15.26 million [57].

Generally, since 2014 and as of 2019, the passenger traffic had increased by 84%. Whilst, the transfer passengers share amounts to approximately 30% of the total passenger flow.

The Airport dynamic development was highly praised on the international level. Thus, in May 2018 Boryspil Airport topped the ACI Europe rating among the large European airports with passenger traffic from 10 to 25 million passengers.

In autumn 2018, Boryspil was recognized by the expert Flightstats rating. The Airport hit top 20 most punctual European airports. In 2019, Boryspil International Airport was ranked third in the Best Eastern European Airports 2019 rating, conducted by the British Skytrax consulting company, as a few years in a row.

Boryspil Airport team is determined for further consolidation of position of the leading aviation hub of the Eastern Europe [57].

The passenger traffic of the SE International Airport “Boryspil” in 2015-2019 by analyzing the data in Table 2.1.

Table 2.1

Passenger traffic of International Airport “Boryspil” from 2015 to 2019

Years	Passenger traffic of Boryspil	%	Total passenger traffic by country	The share of Borispil
2015	7,277,135	<5,6	10,695,200	68.04%
2016	8,650,000	<18,9	12,929,900	67%
2017	10,550,000	<21,9	16,499,500	64%
2018	12,603,000	<19.4	20,491,500	61%
2019	15,260,300	<21.1	22,921,200	59%

Source: [57]

In 2014 the number of passengers has decreased because of the unstable situation in Ukraine, and especially because of the war in the east of the country.

But starting from 2015, when the situation has stabilized passenger traffic is beginning to increase and show record levels for passenger traffic. In 2018, passenger traffic show us the highest rate in the history of Boryspil airport. The share of Boryspil airport is more than half but in the last two years it has declined because

interest in the country began to increase and people fly not only to Kiev but also to other cities of our country where there are airports. It negatively reflects on Boryspil airport, but for the aviation industry as a whole, it is a positive indicator. It can be noted that the number of passengers in 2018 increased by almost 20% at the airport, but the total number of passengers throughout Ukraine in the same year was 61%, and in 2017 the warehouse was 64%. This is not a negative indicator, in this case, the fact that the passenger traffic at the airport is increasing is a key indicator. Because this indicator shows the real picture of the company. And the indicator for Ukraine shows the development of aviation in general. It's hard not to notice that aviation is also developing in Ukraine. What affects on the Boryspil airport is only positive.

In Fig. 2.1 passenger traffic of Boryspil airport is graphically depicted.

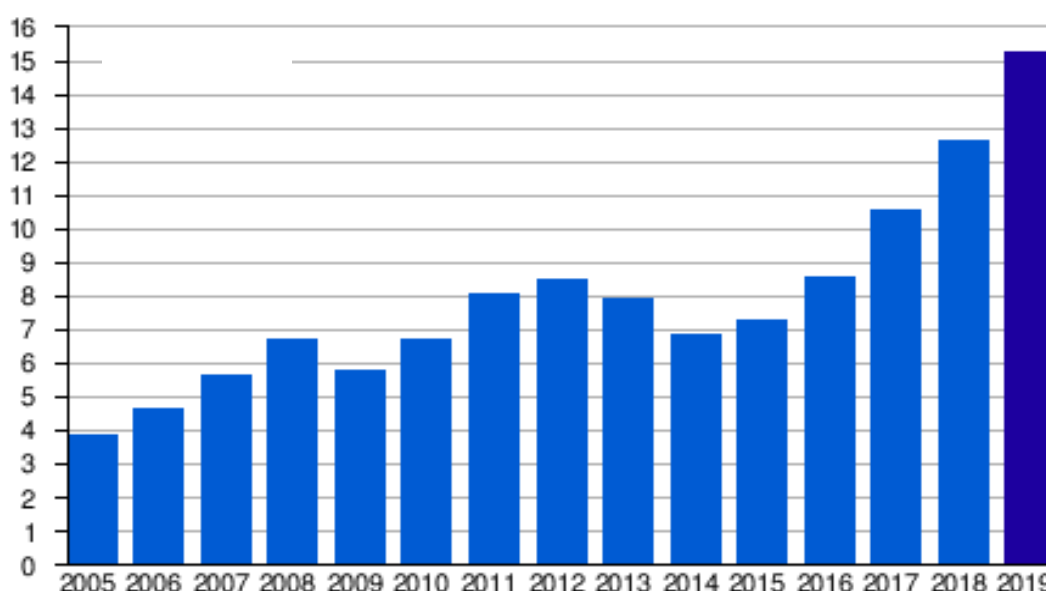


Fig. 2.1. Dynamics of passenger traffic of Boryspil airport, million people [57]

Boryspil is a part of the Association of European Airports. According to the results of 2016, Boryspil International Airport has become one of the leaders in the ranking of European airports by the classification ACI Europe (International Council of Airports), ranking 3rd in terms of growth rates among airports, which serve from 5 to 10 million passengers annually. The leaders in this category were the airports of Berlin (36.7%) and Larnaca (24.2%).

Boryspil Airport is constantly striving for improvement. It develops infrastructure, attracts new airline companies, and improves the quality of service. We strive to ensure that the country's business card creates the first - definitely positive - impression on our state. Opened in 2012, the most powerful passenger terminal in Ukraine D is the logical development of the airport infrastructure, which brings Boryspil to a fundamentally new level and quality of air transportation. Currently, there are two runways in length of 4,000 m and 3,500 m and four passenger terminals (one is operated, and the other three are preserved). International airport "Boryspil" is the main airport of the airline UIA [57].

This is the only airport in Ukraine that operates transcontinental flights. The airport is a member of the IATA, the ICAO and the ACI Europe. The modern system of Boryspil airport is an important prerequisite for the economic development of the country and its integration into the world economy.

The main tasks of Boryspil airport are:

- participation in the implementation of the state policy on the development of civil aviation; organization of air transportation; i
- implementation of the main directions of economic, tariff, financial, personnel, scientific and technical, investment, social policies and implementation of measures for environmental safety in the civil aviation industry;
- regulation of the use of airspace and air traffic services; implementation of measures to protect civil aviation from acts of unlawful interference;
- ensuring the protection of the interests of national air carriers, the national air transportation market and access to it by operators of all forms of ownership;
- participation in the preparation of draft national, state and sectoral programs for the development of civil aviation and in their implementation.

Terminal "A" of the Boryspil airport was focused on servicing passengers traveling within Ukraine. Here was the waiting room (2nd floor), a toilet (ground floor), currency exchange offices and airlift. The terminal also hosted representative offices of airlines operating domestic flights. Near the terminal "A" there were cafes and car parked parking, as well as an airport shuttle. Most flights were operated by

AeroSvit and Dniproavia airlines, as well as in the terminal "A", domestic flights of passengers of the International Airlines of Ukraine and Motor Sich served.

Since September 15, 2011, all domestic flights from Boryspil are from the terminal "B", and the terminal "A" is closed. In 1995, Terminal C was opened for servicing VIP passengers. It is designed primarily for the servicing of personal aviation aircraft. Located to the right of terminal "B", equipped with own guarded parking. In the hall - separate rooms for rest, communication services, halls for holding press conferences, meetings and banquets. Closed in 2012, and service of VIP passengers is transferred to the terminal D [57].

Terminal "D" - a new terminal with an area of 107 thousand square meters. On May 28, 2012 it was solemnly opened, now it is the largest terminal complex in Ukraine. Implementation of the construction of a new terminal "D" began in November 2008. As of December 27, 2011, all construction work on the construction of terminal "D" was completed. The finishing and debugging of the terminal lasted until its opening. In the zones of registration of the new airport terminal there is a large number of check-in desks (60 in the international flights area, 16 in the area of inland flights and 6 in the web-registration area), 18 points of control for aviation security in the international flights zone and 6 in the area of inland flights, 28 passport control cabin, which avoids queues. The terminal is equipped with 11 stationary aerodromes with an automated docking system (for landing / landing), which allow simultaneously accepting six Boeing 747 aircraft and five Boeing 737 aircraft. The terminal can service up to 10 million passengers a year, 3000 passengers per hour on departure and the same on arrival. In the zone of departure of the new air terminal complex there are 61 registration racks, 18 control points for air safety, 28 cabins of passport control. The gallery of flights waiting in the departure zone has a length of 870 m. For the convenience of passengers, lifts, escalators, travolators are installed. A total of 19 passenger and 2 cargo elevators, 18 escalators and 12 trawlers of the Schindler company (Switzerland) were installed. The speed of the latter - 0,5 m/s, the tape length - from 28 m to 58 m, which allows to increase the capacity of the

terminal. The terminal has a children's playground and VIP-hall. By 2020 the terminal should increase by 2 times.

Terminal F was opened on September 21, 2010. The capacity is 900 passengers on the flight and 900 on arrival. The first passengers were taken on October 31, 2010. From October 27 (beginning of winter navigation) in 2013, the Terminal F was frozen and all flights were transferred to Terminal B, and in the future to Terminal D. The airport management considered the possibility of restoring the terminal to compensate peak airport charges in the morning and evening periods in 2017. Terminal "F" was the base for UIA (international flights). The terminal served international and charter flights of 22 airlines: UIA, UM Air, Utair Ukraine, Air Baltic, Armavia, Adria Airways, Belavia, Caspian Airlines, Austrian Airlines (Austria), Georgian Airways, Germanwings, Libyan Arab airlines (Libya), Lufthansa (Germany), Finnair (Finland), S7 Airlines (Russia) and others. March 23, 2018, a press conference was held at the terminal on the occasion of signing contracts with Ryanair. Pavel Ryabikin stated that with increasing frequency of the latter to 15 per day, terminal F will be expedient to be decompressed. Previously, the question of its demolition was considered. According to the director of Ryabikin, in 2018 financial plan on the preservation of the terminal provided 100 million UAH. It was also necessary to attract and train ~ 300 people of the staff, which took 3-5 months. Average lack of staffing by the company is 12% (about 400 people), in some production units - up to 25% [57]. Such a number of terminals at the airport makes it possible in the future to take a large number of passengers, as well as international giants. Just to make it happen, the airport needs more runways. However, to date, such a task is not worth the airport and cope with passenger traffic. Although, given the positive trends, it may be necessary to talk about this in the future.

Freight terminal is intended for cargo flights service. A truck station is located next to it. It has a parking lot, designed for 17 planes.

The following airlines offer regular scheduled and charter services to and from Boryspil International Airport in Table 2.2.

Table 2.2

Regular scheduled of Boryspil airport

Airline company	Directions
Adria Airways	Ljubljana
Air Arabia	Sharjah
Air Astana	Almaty, Astana
Air France	Paris–Charles de Gaulle
KLM	Amsterdam
airBaltic	Riga
Azerbaijan Airlines	Baku
Belavia	Minsk
British Airways	London–Heathrow
Czech Airlines	Prague
Georgian Airways	Tbilisi

Source: SE “IA “Boryspil” data [57]

The table shows the airlines and ways in which the report of Boryspil has been cooperating for many years and even during difficult times of 2013-2014, passenger traffic has almost not decreased.

The Table 2.3 shows which airlines in 2014 have reduced the passenger traffic to almost to zero procent, but since 2015 they returned to the market of Ukraine and Boryspil airport.

Looking at the table, one can say why the data of the airline reduced their presence at Boryspil airport. This is because of the fact that these are exotic countries that were able to replace the Boryspil airport with safer ones at that time. And after stabilization they returned to the Ukrainian market.

Table 2.3

Non-regular scheduled of airport Boryspil

Airline company	Directions
Swiss International	Zürich
Qatar Airways	Doha
Iraqi Airways	Baghdad
Windrose Airlines	Dnipropetrovsk, Bucharest, Sofia
LOT Polish Airlines	Warsaw–Chopin
Lufthansa	Frankfurt, Munich
Nordica (operated by LOT Polish Airlines)	Tallinn
Turkish Airlines	Istanbul–Atatürk

Source: SE “IA “Boryspil” data [57]

Airlines entered the Ukrainian market and at Boryspil airport in 2018 (Table 2.4).

Table 2.4

Airlines entered Boryspil airport in 2018

Airline company	Direction
Air Malta	Malta (resumes 19 June 2018)
El Al	Tel Aviv–Ben Gurion (resumes 15 October 2018)
Up	Tel Aviv–Ben Gurion (ends 14 October 2018)
Ryanair	Barcelona (begins 31 October 2018), Berlin-Schönefeld (begins 3 September 2018), Bratislava (begins 2 November 2018), Gdańsk (begins 2 November 2018), Kraków (begins 31 October 2018), London-Stansted (begins 31 October 2018), Poznań (begins 30 October 2018), Stockholm-Skavsta (begins 31 October 2018), Vilnius (begins 2 November 2018), Warsaw-Modlin (begins 31 October 2018), Wrocław (begins 2 November 2018)

Source: SE “IA “Boryspil” data [57]

This table shows not only airlines that are already flying from Ukraine and its runner company who signed a contract with Boryspil airport and scheduled to depart only at the end of 2018. This may indicate that there are arrangements in the long-term agreement at Boryspil airport. This may be a signal for other companies to enter the Ukrainian region.

It can also be said that the Boryspil airport deals not only with the old airlines but also establishes links to the news. Ryanair is example of such connections. This company allows for a lower price to travel around the world which in turn increases

the popularity of the Boryspil airport. Since November 25, 2015, the government has banned flights from all Russian airlines over the territory of Ukraine. Separate Russian airlines, which carried out flights to Crimea, the ban was introduced on October 25, 2015.

Airport has also seasonal transitions that are shown in Table 2.5.

Table 2.5

Seasonal airlines of Boryspil airport

Airline company	Directions
Aegean Airlines	Seasonal: Athens
Anda Air	Seasonal : Sharm El Sheikh
AtlasGlobal	Seasonal: Antalya
Austrian	Vienna
Airlines	Seasonal: Innsbruck
Bravo Airways	Seasonal: Sharm El Sheikh
Ellinair	Thessaloniki Seasonal: Corfu, Heraklion
Ukraine International Airlines	Seasonal: Nice, Palma de Mallorca, Salzburg: Hurghada, Sanya, Sharm El Sheikh Seasonal: Antalya, Bodrum, Dalaman, Tenerife-South, La Romana
Yanair	Seasonal: Barcelona, Hurghada, Sharm El Sheikh
Windrose Airlines	Seasonal: Ancona (begins 9 June 2018), Barcelona, Burgas, Larnaca, Pula, Tivat Seasonal: Antalya, Bodrum, Dalaman, Heraklion, Hurghada, Izmir, Lamezia Terme (begins 1 June 2018), Patras (begins 2 June 2018), Rhodes, Sharm El Sheikh, Split

Source: SE "IA "Boryspil" data [57]

Seasonal air transportation is very beneficial for Boryspil airport as the airport can plan that in a certain period of time profits will increase. Practice shows that seasonal air travel is increasing every year. That is why more and more new airlines are entering Boryspil airport. Because of this, Boryspil Airport can plan in 48 the long run, knowing that profits will increase every year, especially in the summertime, when people leave and climate allow travel to almost anywhere in the world. After analyzing the tables we can say that Boryspil Airport can be a competitor for any airport in Europe. The airport covers almost the entire planet Earth, which allows

passengers to travel from Kiev to many points of our planet. Airlines and destinations of cargo company we can say in Table 2.6.

Table 2.6

Airlines and destinations of cargo company

Airline company	Destinations of cargo company
Aero Charter	Kharkiv, Leipzig/Halle, Luxembourg
DHL Aviation	Leipzig/Halle, Katowice
Kalitta Air	Bahrain
Motor Sich Airlines	Ankara, Zaporizhia
Turkish Airlines Cargo	Istanbul-Atatürk, Budapest, Vienna, Helsinki
ULS Airlines Cargo	Istanbul-Atatürk
Ukraine International Airlines	Brussels, Prague, Liege, Vienna
Silk Way Airlines	Baku, Hahn, Milan-Malpensa

Source: SE “IA “Boryspil” data [57]

Fortunately, the transport of freight traffic is not as big as the passenger traffic and in this area Boryspil airport can be develop and attract new companies and new ways to transport goods. One of the directions of freight transportation development. I consider development of non-aviation activity of enterprises. Companies that will be cooperating with the Boryspil airport can commercially 49 attract their customers who will be forced to use the services of the Boryspil airport. The organizational structure of management is an ordered set of interconnected elements that are interconnected in stable relationships that ensure their functioning and development as a whole. Elements of the structure can be as separate employees, services and individual links of the management apparatus, and the interconnections between them are maintained through horizontal and vertical links, which are linear and functional. Within the structure of management is the management process (information movement and management decisions), between the participants of which are distributed tasks and functions of management, and accordingly - the rights and

responsibility for their implementation. Relationship of management structure with such key concepts of management as goals, functions, process, mechanism of functioning is evidence of how great the influence of organizational structure on all aspects of management. That is why managers of all levels pay close attention to the principles and methods of forming structures, the choice of type or combination of types of structures, studying the trends in their construction and evaluation in accordance with the goals and objectives that are being solved.

2.2. Analysis of financial and economic performance indicators

The Cabinet of Ministers of Ukraine has approved a financial plan of state-owned enterprise (SOE) Boryspil International Airport (Kyiv), the largest airport of the country, for 2018 with the projected net profit of UAH 1.388 billion.

This is outlined in a government resolution passed at a meeting on April 11, 2018, a copy of which is available to Interfax-Ukraine.

According to the document, net revenue in 2018 is planned in the amount of UAH 3.93 billion, gross profit – UAH 2.156 billion, earnings before interest, taxes, depreciation and amortization (EBITDA) – UAH 2.473 billion, and EBITDA margin – 69.9%.

Pretax profit could be UAH 1.695 billion, payments to the state – UAH 1.923 billion and capital investment – UAH 2.263 billion.

Boryspil International Airport is the main airport of Ukraine. The airport has two runways: one with a length of 4,000 meters and a width of 60 meters, and the second with a length of 3,500 meters and a width of 63 meters. Four passenger terminals, postal and cargo complexes are located on the territory of the airport.

Summing up its performance in 2018, Boryspil International Airport State Enterprise may confidently speak about the steady growth of its key performance indicators. Thus, this stable growth is better seen from a perspective of the last few years performance.

Airport Income and Expenditures Dynamics. Analyzing the State Enterprise income and expenditure for the previous 5 years, we can see that in 2014 the Airport was a loss-making enterprise. However, eventually via reforming the expenditure items and working upon the income increase the Airport demonstrates its profitability. Thus, in 2018, the airport EBIT (earnings before interest and taxes) amounted to UAH 2.3 billion, which is by 8,7% more than in 2017. In 2019 there was slight decrease of EBIT down to UAH 1.9 billion (Fig. 2.2).

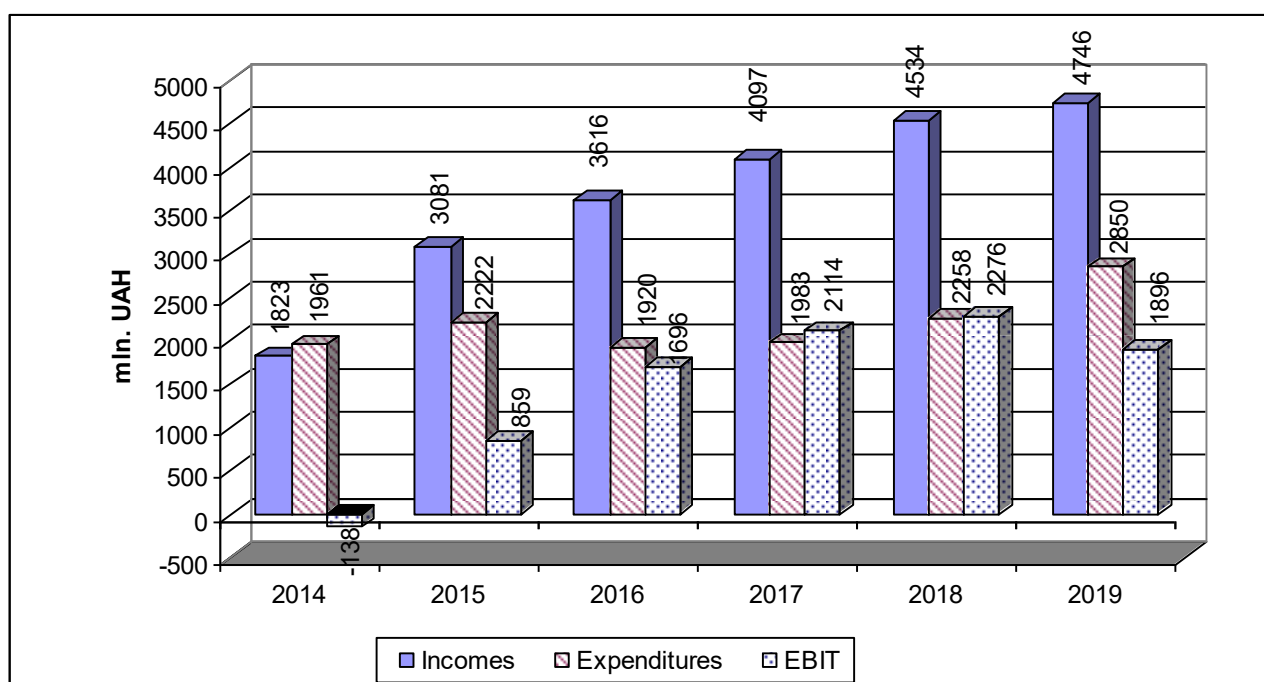


Fig. 2.2. Dynamics of Boryspil Airport main financial indicators

Source: developed on the basis of [57]

Key to success: passenger throughput involvement. In accordance with the financial plan for 2018, the Airport predicted 12,5 million passenger flow. By the results of the year, it amounted to 12,603,000 passengers. Such a minor difference between the predicted and actual index proves the stable and the forecasted growth dynamics, enabling the infrastructural development, income and expenditure levels planning (Fig. 2.3).



Fig. 2.3. Passengers throughput dynamics of Boryspil Airport [57]

Gradual annual growth of all passenger categories, and transfer in particular, is a sign of the hub development strategy success. Therefore, the number of the transfer passengers in 2018 increased by 16,8% comparing with 2017.

Constant work upon expansion of cooperation with the air carriers led to the possibility to launch or renew our partnership with 10 airlines in 2018, which is the record in air partners involvement. It became possible as the result of the updated air carrier stimulation program. Thus, it resulted in 62 new flights per week and 25 new destinations.

Among the largest air carriers operating flights at Boryspil Airport it is worth to note Ukrainian International Airlines, Wind Rose, Azur Air, Lufthansa, Turkish Airlines, YANAIR, Bravo Airways, Air France, LOT and El Al. In addition, Ryanair airline which joined in 2018 is also growing in intensity.

Profitability increase and the enterprise management social focus enabled the pay increase. Currently remuneration and social security is the largest expenditures item. Average salary per month and average number of full-time employees of Boryspil Airport in 2014-2019 are given in Fig. 2.4.

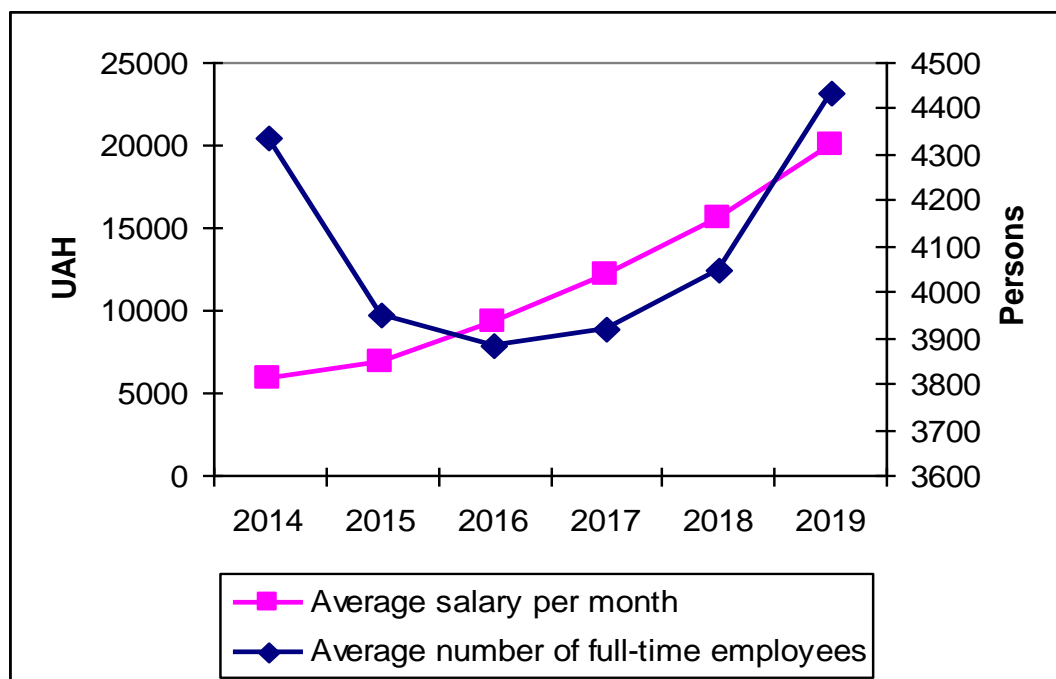


Fig. 2.4. Dynamics of average salary per month and average number of full-time employees of Boryspil Airport in 2014-2019

Source: developed on the basis of [57]

In 2018 SE “IA Boryspil” received revenues of UAH 4,533.9 million, which is 10.7% more than in 2017, in 2019 – UAH 4,746 million (increase of 4.67% compared to 2018). The dynamics and structure of income growth for 2014-2019 are shown in the Table 2.7.

Table 2.7

The dynamics and structure of incomes of SE “IA Boryspil”

Indicators	2016	2017	2018	2019	Absolute deviation 2019 to 2016	Relative deviation 2019 to 2016
Total revenues, million UAH, including:	3 616	4 097	4 534	4746	1130	31,25
Airport charges, UAH million	2 309	2 587	2 665	2814	505	21,87
Auxiliary Aviation Services, UAH million	687	805	1 030	1053	366	53,28
Commercial services, UAH million	399	524	638	678	279	69,92
Others, UAH million	221	181	200	201	-20	-9,05

Source: SE “IA “Boryspil” data [57]

The main part of the income of IA “Boryspil” (approximately 59%) is the revenue from airport charges (passenger dues, take-off and landing fees, aviation security fees, parking fees) (.

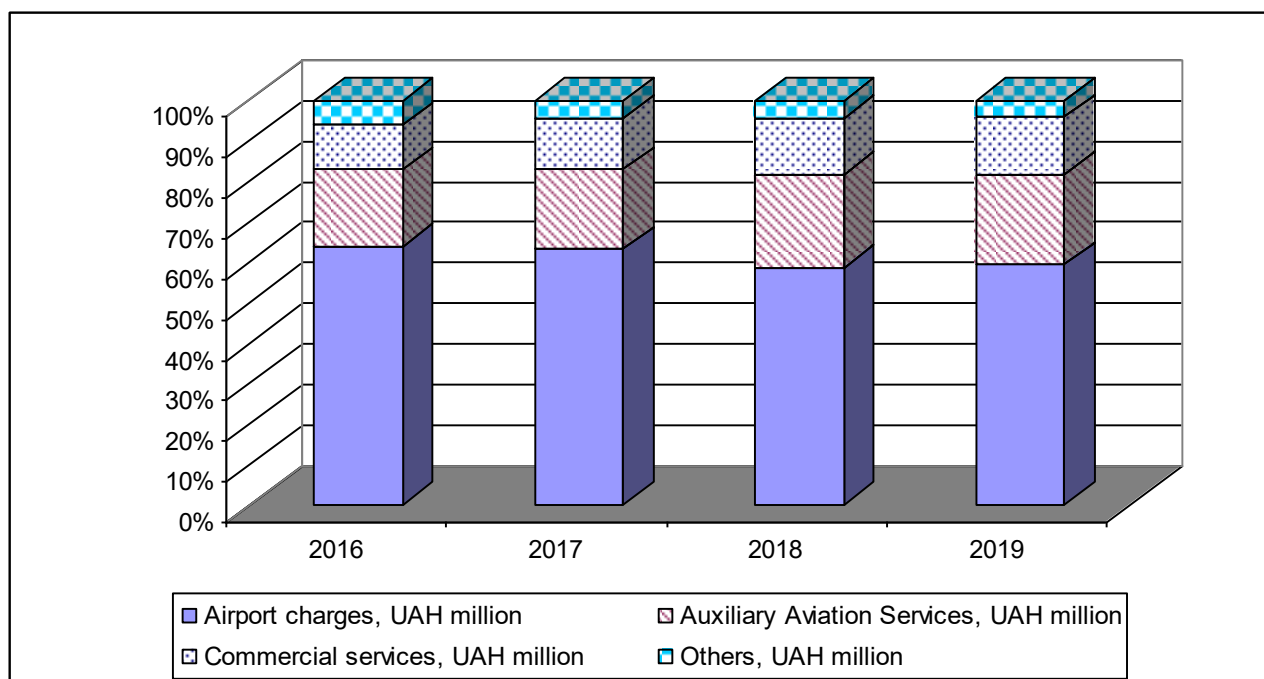


Fig. 2.5. Dynamics of the structure of incomes of SE “IA Boryspil” in 2016-2019

Source: developed on the basis of [57]

Indicators of liquidity and solvency show the balance of current liabilities and current assets of the SE “IA “Boryspil” and indicate the level of risk of gaps in the payment calendar (Table 2.8).

Table 2.8

Indicators of liquidity and solvency of “IA “Boryspil”

Indicators	2016	2017	2018	2019	Absolute deviation 2019 to 2016	Relative deviation 2019 to 2016, %
Current liquidity ratio	1.2	1.0	1.8	3.4	2,2	183.33
Quick liquidity ratio	1.11	0.89	1.58	3.0	1.89	170.27
Net working capital, ths. UAH	292	36	828	1496	1204	412.33

Source: calculated on the basis of SE “IA “Boryspil” data [57]

According to the calculated indicators it should be concluded that almost all liquidity ratios for the three periods were within the normal range, with the worst in 2017, but the company significantly improved the situation in 2018-2019.

Net working capital decreased by 88% in 2017 and significantly increased by 2197% in 2018. Also there was a big growth in 2019 up to UAH 1496 ths. Such an increase is good for the enterprise being an excess of current assets over short-term liabilities is observed which means that an enterprise can not only repay its short-term liabilities, but also has reserves for expansion.

Financial sustainability ratios indicate the level of financial risks for “IA “Boryspil” and the level of its dependence on borrowed capital (Table 2.9).

Table 2.9

Financial sustainability ratios of SE “IA “Boryspil”

Indicators	2016	2017	2018	Absolute deviation 2017 to 2016	Absolute deviation 2018 to 2017	Relative deviation. 2017 to 2016	Relative deviation 2018 to 2017
Own working capital	291 551	35 524	827 406	-256 027	791 882	-87.82	2 229.15
Ratio of providing current assets with own capital	0.19	0.03	0.43	-0.16	0.4	-84.21	1333.33
Working capital maneuverability	0.53	4.99	0.23	4.46	-4.76	841.51	-95.39
Financial independence (autonomy) ratio	0.635	0.693	0.724	0.058	0.031	9.13	4.47
Financial dependency ratio	1.575	1.442	1.381	-0.133	-0.061	-8.44	-4.23
Debt capital concentration ratio	0.365	0.307	0.276	-0.058	-0.031	-15.89	-10.10
Financial stability ratio	0.087	0.013	0.303	-0.074	0.29	-85.06	2230.77
Total financial stability ratio	0.863	0.850	0.891	-0.013	0.041	-1.51	4.82

Source: Calculated on the basis of SE “IA “Boryspil” data [57]

Financial dependency ratio for all estimated periods was lower than normative value and had tendency to decrease (by 8% in 2017; by 4% in 2018). It has a bad sign for the SE “IA “Boryspil” ability to carry out the projected activities in the long term.

Total financial stability ratio for all estimated periods had normative value and didn't change significantly (decreased by 1.5% in 2017; increased by 4.8% in 2018). It indicates good prospects for the development of the "Boryspil", low risk of bankruptcy.

Business activity ratios indicate the efficiency of the use of "IA "Boryspil" assets, the consistency of inventory and inventory management. Results of calculations are presented in Table 2.10.

Table 2.10

Business activity ratios of SE "IA "Boryspil"

Indicators	2016	2017	2018	Absolute deviation 2017 to 2016	Absolute deviation 2018 to 2017	Relative deviation 2017 to 2016	Relative deviation 2018 to 2017
Asset turnover ratio	0.674	0.428	0.454	-0.25	0.03	-36.50	6.07
Working capital turnover ratio	2.365	2.646	2.602	0.28	-0.04	11.88	-1.66
Working capital turnover period	152.220	136.054	138.355	-19.17	2.31	-12.35	1.69
Inventory turnover ratio	8.2	4.065	4.789	-4.14	0.72	-50.43	17.81
Period of one inventory turnover (days)	43.90	88.56	75.17	44.66	-13.39	101.73	-15.12
Equity turnover ratio (turnover)	0.593	0.644	0.639	0.05	-0.01	8.60	-0.78

Source: Calculated on the basis of SE "IA "Boryspil" data [57]

After calculating business activity ratios of SE "IA "Boryspil" following conclusions were made.

Asset turnover ratio decreased by 36.5% in 2017 and increased by 6% in 2018. Such tendency shows that SE "IA "Boryspil" doesn't use its assets efficiently.

Capital productivity had a good tendency to growth during all estimated periods (increased by 14% in 2017 and by 8% in 2018). It demonstrates that SE “IA “Boryspil” efficiently use fixed assets of the enterprise.

Working capital turnover ratio increased by 12% in 2017 which indicates that SE “IA “Boryspil” needed fewer resources to maintain current level of activity. But ratio insignificantly decreased by 1.6% in 2018. Reduced turnover leads to an increased need for financial resources.

Working capital turnover period decreased by 12% in 2017 and insignificantly increased by 1.7% in 2018. It means that SE “IA “Boryspil” needs to attract more financial resources to finance current assets, and this leads to an increase in financial expenses, as it is necessary to raise additional funds.

Inventory turnover ratio sharply decreased by 50% in 2017 and increased by 17.8% in 2018. So, in the company a lack of resources was observed.

Period of one inventory turnover sharply increased by 101,7% in 2017 which meant bad optimization of the structure of stocks. The ratio decreased by 15% in 2018. It indicated that now SE “IA “Boryspil” needs less money for inventory formation.

Accounts receivable turnover ratio remained almost the same (increased by 1%) in 2017, but decreased by 14% in 2018, which means SE “IA “Boryspil” had ineffective debt management.

Duration of receivables collection remained almost the same (decreased by 1%) in 2017 and increased by 16.7% in 2018. Such an increase shows that clients are diverting the financial resources of the company for a longer period.

Accounts payable payment period decreased by 10.6% in 2017, and increased by 3% in 2018. Comparing 2018 to 2016, company uses the financial resources of suppliers and contractors for a shorter period of time. An increase will allow reducing the amount of borrowed capital.

Equity turnover ratio increased in 2017 and remained almost the same (decreased by 0.8%) in 2018. It is seen that SE “IA “Boryspil” providing continuous optimization of the company in its area.

Results of estimating financial and economic activity of SE “IA “Boryspil” are presented in Table 2.11.

Table 2.11

Profitability indicators of SE “IA “Boryspil”

Indicators	2016	2017	2018	Absolute deviation 2017 to 2016	Absolute deviation 2018 to 2017	Relative deviation 2017 to 2016	Relative deviation 2018 to 2017
Return on assets	0.151	0.193	0.187	0.04	-0.01	27.81	-3.11
Return on equity	0.238	0.278	0.259	0.04	-0.02	16.81	-6.83
Return on sales	0.413	0.447	0.434	0.03	-0.01	8.23	-2.91

Source: calculated on the basis of SE “IA “Boryspil” data [57]

In 2017 an increase in the company's ability to generate profit for its owner was observed (return on assets).

Return on equity increased by 16.8% in 2017 and reduced by 6.8% in 2018. It means that “IA “Boryspil” doesn’t use its equity in the most efficient way. Lower ratios show a relative decrease in net income generated by the same amount of capital.

Return on sales increased by 8% in 2017 and insignificantly decreased by 2.9% in 2018. So, SE “IA “Boryspil” has enough amount of net profit that generates each UAH of sales.

The volume of net debt increased sufficiently in 2019 compared to 2018 – up to UAH 3,305 mln. (increase of UAH 1,932 mln. or 140%) (Fig. 2.6). In 2019 SE “IA “Boryspil” attracted loans to send to the state budget amounts exceeding profits. In 2019 net debt exceeded the level of the crisis 2014.

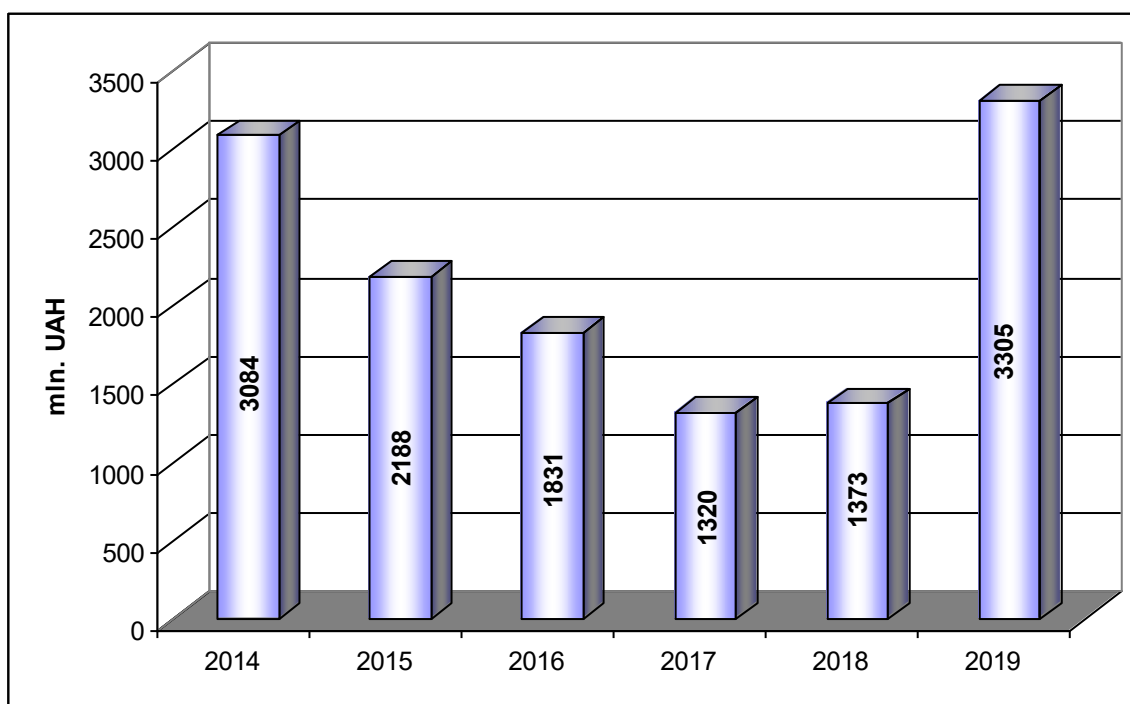


Fig. 2.6. Dynamics of net dept of SE “IA “Boryspil” in 2014-2019

Source: developed on the basis of [57]

It can be concluded that “IA “Boryspil” is independent enterprise with good perspectives for the future. Some resources are not efficiently distributed and used by the enterprise. But in current conditions SE “IA “Boryspil” suffers from negative effects of spreading COVID-19.

2.3. Studying operational and strategic aspects of Boryspil Airport business activity

Management of the SE “IA “Boryspil” searches for relevant ways to improve and optimize business activity of the enterprise to overcome obstacles in its development.

Nowadays, many businesses are using a diversification strategy.

Diversification strategy - development of production of new goods, commodity markets, and types of services, which includes not only diversification of product groups, but also the expansion of entrepreneurial activity to new and not related to the

main activities of the firm of the region. It is a system of measures that is used to ensure that the enterprise does not become too dependent on one strategic business unit or one product group.

The diversification strategy envisages the development of new products at the same time as the development of new markets. In this case, the products may be new to all enterprises operating in the target market, or only for this enterprise. This strategy ensures the profit, stability and resilience of the firm in the distant future. It is the most risky and costly. There are a number of reasons for diversifying an enterprise, one of the main ones being the desire to reduce or distribute risk, as well as the desire to leave the stagnant markets and gain financial benefits from working in new areas. The last two factors - the stagnant market and the desire to explore new areas of activity - are the main reasons for the diversification of Ukrainian enterprises.

Diversification involves identifying exactly the type of activity in which the most competitive advantage of the enterprise can be realized. Diversification has its positives and negatives. The main danger of diversification is related to the dispersal of forces and the problems of managing diversified enterprises. This problem has led to the development of portfolio analysis methods.

The diversification strategy is implemented when the firm cannot continue to develop in the given market within the given branch. The main factors behind the choice of diversification strategy are the following: 77 a) markets for business are in a state of saturation or decline in demand for products due to the fact that the product is dying; b) current business provides exceeding cash flow requirements that can be profitably invested in other business areas; c) new business can have a synergistic effect, for example through better use of equipment, raw materials, etc .; d) antitrust regulation does not allow further expansion of business within the industry; e) tax losses can be reduced; e) access to world markets may be facilitated; g) new skilled employees may be hired or the potential of existing managers better utilized.

The main diversification strategies are:

a) A strategy of concentric (or vertical) diversification based on finding and utilizing additional opportunities to produce new products that are embedded in an existing business; that is, existing production remains at the heart of the business, and new arises out of those opportunities that are encapsulated in the developed market, technology used, or other strengths of the firm. The advantages of vertical diversification are the combination of coordination of actions with high control capabilities, stability of business ties within the enterprise, guarantee of supply of logistical resources, close contact with end consumers. The disadvantages of this strategy include: the interdependence of enterprise units, which in the case of negative external changes worsens the position of the company; a limited market leads to a reduction in the impact of competition, the need for improvement requires significant costs, which ultimately leads to an excess of the cost of resources at the average market price. As a result of these shortcomings, a decrease in the level of vertical diversification is observed;

b) Horizontal diversification implies entering new business areas that are related to meeting the needs for existing clients (consumers) of the firm. An enterprise that manufactures a particular type of product or service may obtain information from its customers about the need for other types of goods and services and the use of this opportunity. This is the advantage of horizontal diversification, which allows to take into account the needs of consumers in various ways, while achieving the effect of synergism - a set of activities gives a greater effect than individual activities. An example is a company that performs passenger transportation, goes into the tourism business, and can provide its passengers with tourist services;

c) The strategy of conglomerate diversification is that the firm expands to produce technologically unrelated goods that are sold in new markets; it is one of the most difficult to implement development strategies; very often this strategy is implemented through the acquisition of businesses rather than the creation of new businesses to operate in an unfamiliar market.

Cargo Handling. The Cargo Terminal of Boryspil International Airport State Enterprise is the largest and the most equipped air cargo terminal in Ukraine. The operational capacity is located onsite Boryspil International Airport, which allows to offer a wide transportation geography. The annual turnover amounts to more than 25 thousand tons of cargo and 4.5 thousand tons of mail. The infrastructure of cargo terminal enables cargo and mail handling in line with the international standards. The equipment and mechanization allow handling of all main types of cargo, carried by air transport. 100% of staff involved in cargo handling is certified for cargo handling according to Airside Safety, Aviation Security, Weight & balance and load control, DGR, LAR requirements and get access for operation on the different types of ground support equipment.

Cargo and mail handling is performed 24/7. Boryspil-Airport Customs Post, Animal Station of Sanitary & Epidemiological Service, Environmental Security Ecological Control Station, Plant Quarantine Post, State Veterinary Control Veterinary Station, the representative offices (GSA), airlines and freight-forwarding companies are located onsite the Cargo Terminal.

The package of services rendered includes:

- Provision of cargo (including special) and mail ground handling services on the cargo aircraft flights
- Transportation from aircraft to warehouse/from warehouse to aircraft, deconsolidation/consolidation of cargo on the passenger-cargo aircraft flights
- Warehouse handling, storage, loading/unloading of the customer's vehicles for all cargo types
- Storage of airlines ULD
- Processing of supporting documents for cargo and information support
- Preparation of supporting documents for transportation of dangerous cargo under the DGR requirements (additional service upon request)
- Express cargo handling (additional service upon request)
- Cargo administration (additional service upon request).

Cargo terminal characteristics:

- territory 14,580 m²;
- 9 storage areas;
 - temporary storage total area (up to 90 day-long storage according to the Customs Code) 5,072 m²: a) heated storage (temperature over +5C) – 2769 m², capacity 1772 pallet/cells or 531.6 tons; b) non-heated storage 2303 m², capacity 914 pallet/cells or 274.2 tons.
 - capacity 2686 pallet/cells, 805.8 tons;
 - up-packaging area 1980 m² (protection against precipitations is available);
 - packaging area 980 m² (protection against precipitations is available);
 - cold storage with temperature conditions +2...+8C (4 units). Export shipments 190 cb. m., maximum doorways: H2m x W1.4m and Import shipments 170 cb. m., maximum doorways: H2m x W1.5m; separate cold storage for cargos containing human remains – 30 cb. m.;
 - refrigerating chamber with temperature -18C (50 m³, doorway: 2m x 0.85m);
 - socialized storage for different classes of hazardous cargo (19 m², 25 m², 31 m², 12 m²);
 - specialized storage for radioactive hazardous cargo (7th class), 18 m²;
 - specialized storage for valuables, 18 m²;
 - special area for live animals short-term accommodation (fenced in, heated, ventilated);
 - CCTV system;
 - fire alarm system at storages;
 - automated cargo inventory system;
 - specialized equipment for mechanized cargo handling (container loaders, forklifts with loading capacity of 1.5 – 7 tons, container dollies, trucks, lifting platforms, conveyor belts, hand loaders, tractors);
 - highly qualified, educated and certified personnel engaged in handling hazardous cargo and live animals.

Other facilities located on the Cargo terminal territory:

- Kyiv Customs authorities (Boryspil Airport Customs Station);
- Sanitary and Quarantine station of Sanitary and Epidemiological Service;
- Ecological control station;
- Plants quarantine station;
- Veterinary station of State Veterinary Control Department;
- Representative offices (GAs) of the carriers and shipping agencies.

It can be concluded that in order to survive in a market economy and overcome crisis (after after the situation improves), "IA "Boryspil" needs to optimize its business activity: to improve the overall state of financial and economic activity through the effective use of fixed assets; to increase means of work; to increase the volume of services rendering, improve its quality giving a way of increasing the total profit; to optimize use of resources. It can be done through application of comprehensive measures, in particular taking into account the experience of other international airports.

PART 3. WAYS TO OPTIMIZE ACTIVITY OF SE “IA “BORYSPIL” IN CRISIS CONDITIONS

3.1. Proposals on using international experience of airports in overcoming crisis conditions

In identifying the ways to optimize activity of SE “IA “Boryspil” in crisis conditions there is a need to study a variety of measures taken by international airports all over the world in crisis conditions.

As a result of the spread of COVID-19, an unprecedented financial situation has developed across the travel industry, although this is not the first time the industry has faced a pandemic. In addition to millions of people infected and hundreds of thousands of deaths from the virus, the global economy is heading into recession, with global GDP forecast to decline 3.0%.

The coronavirus pandemic has seriously worsened the economic situation of almost all major airports in Europe. The Airports Council World Council Trade Association predicts that air passengers will drop by more than 4.6 billion in the full year of 2020. The association estimates that global total airport revenue will decline over \$ 97 billion for all of 2020.

According to Euronews, London Heathrow, which was the leader in terms of traffic before the crisis, recorded a decrease in workload by almost 69% – it served only about 19 million passengers. And in the European ranking of the Airports Council International, it lost the lead to the Parisian Charles de Gaulle, whose losses were less – about 67%.

The worst hit in the top five air hubs in Europe was Frankfurt Airport – it lost more than 70% of passengers.

It will take years to recover from the crisis. About 95% of Geneva Airport revenue depends on passengers – directly or indirectly. The airport management has

taken many steps to cut costs, but as it presents a platform filled with high-tech facilities, the ability to quickly cut costs is limited [91].

According to Airports Council International estimates, about 200 European air hubs could go bankrupt without serious government support. Since the beginning of the year, the volume of air traffic in the region has decreased by almost 1.3 billion passengers. As of mid-October, indicators continue to decline – for airports in the EU, the Euro-zone, Switzerland and the UK, the fall may be 80%, and the prospects for border closings and tightening restrictions in the winter season leave even less hope [91].

Comparison of dynamics of the world commercial air traffic in 2020 to 2019 is given in Fig. 3.1.

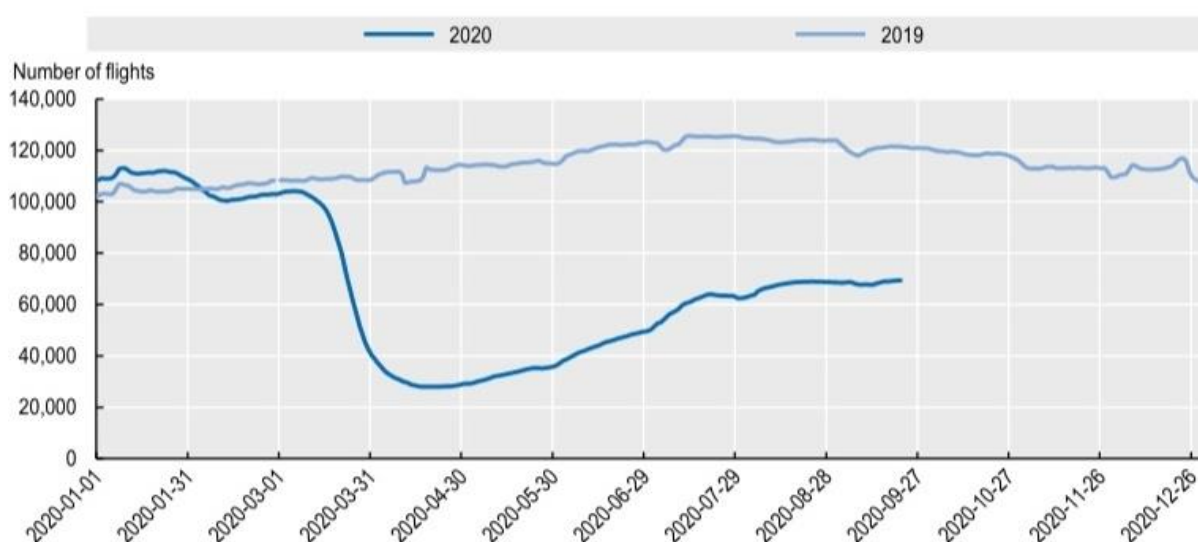


Fig. 3.1. Dynamics of the world commercial air traffic, 2020 vs. 2019

Source: Flightradar24 Statistics [92]

Nearly two hundred airports in Europe face insolvency in the coming months as the coronavirus crisis continues to wreak havoc on the industry. This was announced by ACI EUROPE, a lobbying association that promotes the collective interests of European airports. Europe is facing the collapse of much of its air transport system if governments do not do more to support the sector. There are 740

airports in Europe, among them 193 airports are at risk (mainly regional airports, which help to maintain about 277 thousand jobs).

In 2020 during 8 months after the onset of the crisis, all airports in Europe are spending money to stay open, and revenues do not even come close to covering operating costs, let alone capital costs [95].

ACI Europe reported a 73% decrease in passenger traffic at European airports in September 2020 compared to the same period last year. The airline industry blames the quarantine measures for the drastic reduction in passenger numbers and calls for a common European testing protocol to help save the business [95].

The volumes of government support to airlines in the aftermath of the COVID-19 crisis are presented in Fig. 3.2.

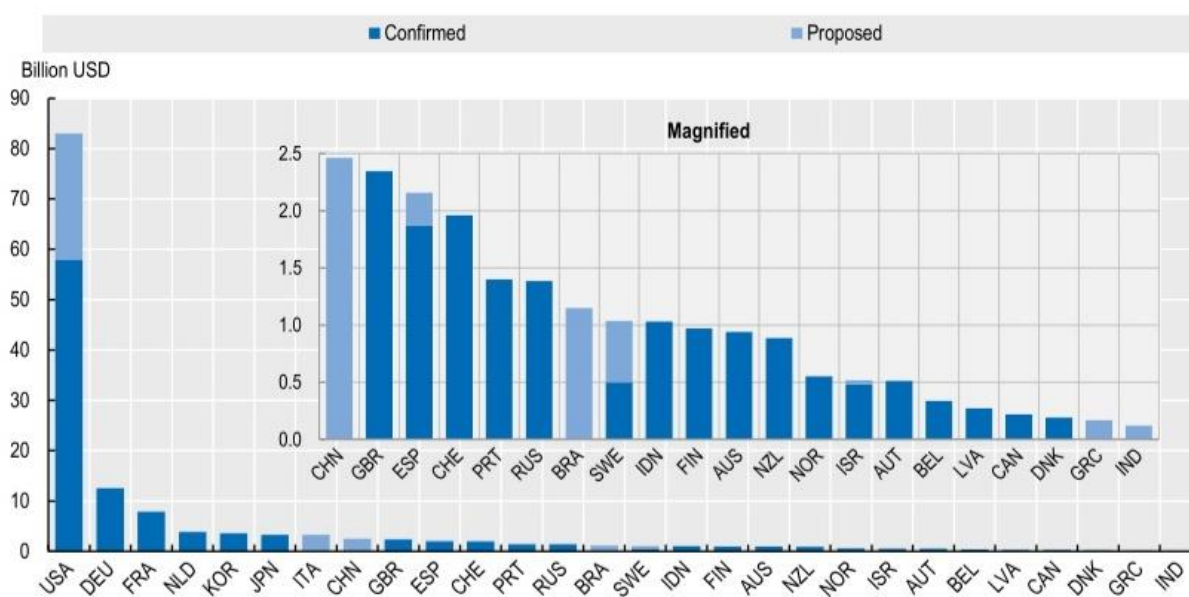


Fig. 3.2. Government support to airlines in the aftermath of the COVID-19 crisis in August 2020

Source: OECD elaborations [93]

As can be seen, during the pandemic, airports faced record drops in revenues that could not be compensated for with available resources, so in a number of cases they had to resort to massive layoffs.

ACI World has published a guide and information for its members providing guidance on coping with the impact of the COVID-19 pandemic – COVID-19 Practical Cases, detailing the actions that airports are taking today. Examples include the introduction of temperature screening, the requirement to provide a health certificate for passengers, the offer of hand cleaning and disinfecting products to passengers, extended cleaning procedures for airport service areas and public places including restaurants, escalators and elevators, and baggage carts, etc. However, the examples of ACI World events provided are guidelines and not directives for airports. Some experts are of the opinion that airports should operate on the ground and meet the requirements of local authorities and departments, since the situation with the spread of infection is different everywhere. On the one hand, this concept can bear fruit, but on the other hand, it may end up with a patchwork of disparate sets of do-it-yourself measures at airports around the world, and air passengers will have to adapt to different requirements on a case-by-case basis.

In the United States, for example, government agencies, operators, and service providers recommend or oblige employees and customers to adhere to the Centres for Disease Control and Prevention protocols. The Transportation Security Administration (TSA), which said 548 of its airport staff members tested positive for COVID-19 in May, has implemented social distancing on security and control lines to minimize direct contact between travellers and staff. Some airlines, such as Los Angeles International Airport, have a mandatory mask wearing requirement.

Experts expect long-term changes in the behaviour patterns of air travellers, including greater attention to personal hygiene in public places and the emergence of fundamentally new requirements. There is a need to note the change in the purchasing habits of customers, in particular, the desire to move as far as possible from those around them in crowded catering points, food courts and retail stores, to minimize the number of points of contact, to expand the use of kiosks with touch screens, mobile applications and virtual resources. To ensure that passengers' gadgets work as they should, airports will have to increase their technological capacity and network potential on their territory.

Antiviral and antibacterial measures along with the provision of health certificates are likely to become the new airport norm. A report from aviation marketing consultancy SimpliFlying suggests that more than 70 different areas of air travel will change in the near future to meet new antiviral requirements. This will increase the time that passengers will have to spend on airport entry and exit checks due to temperature screening and other medical procedures.

In this regard, airports are stepping up the development of contactless travel technologies, including biometrics, automated electronic gates, robotics and artificial intelligence, which make it possible to automate many routine processes that require human participation, increase efficiency and at the same time ensure a high level of security.

Hong Kong International Airport has already deployed autonomous cleaning robots in key terminal work areas for comprehensive disinfection of crowded areas. British Heathrow announced trials of ultraviolet sanitation, thermal face screening technology and contactless equipment for security personnel. In the near future, the airport will evaluate these technologies in terms of medical effectiveness, consumer confidence and practicality in an airport environment.

In analyzing the current departure process, one will notice that it is fraught with risks of infection, if only because passengers often stand in queues. The relatively short time lag between a passenger's arrival at the airport and departure leaves little time for action other than a basic temperature scan to identify and isolate infected passengers.

Therefore, the first and justified step by governments should be queuing measures to stop the export of disease from one country to another. In the early stages of COVID-19, the authorities at some airports (for example, in Beijing) asked arriving passengers to arrive at the airport eight hours before departure for necessary checks, and arriving passengers were quarantined for two weeks.

These measures are not that expensive and not difficult to implement, but they are quite effective. Although, in a number of countries where there was a huge number of cases of COVID-19 infection, they were useless, and even impossible.

Taking into account the above problems in the traditional travel process, it seems that the existing airport procedures should be revised and revolutionized in order to eliminate critical deficiencies.

First, to carry out the necessary checks of passengers in advance, including temperature scans, even before arriving at the airport, and second, to decentralize the operation of the airport, to ensure that they can control dangerous areas themselves in order to avoid the hustle and bustle and reduce the risk of infection. These activities alone can play a huge role in increasing the resilience of the industry during the pandemic crisis and bring significant and sustainable operational and commercial benefits. The active introduction of innovations in mobile, analytical and biometric technologies in itself can optimize and secure many airport processes.

There is a need to consider one of the possible scenarios of air travel in the new conditions in relation to airport procedures.

The passenger flies from Paris to Tokyo and requests check-in from home 12 hours before the flight. The airline's system stores travel data and personal history. Before registering, the system detects that, depending on the physical location, there was an increased risk of infection in the previous few days. Accordingly, the passenger will be advised not to go directly to the airport, but to contact one of the mobile check-in centres closest to the place of residence, equipped with medical check-in facilities, where one can pass the necessary tests in an isolated room, check in luggage and check in for the flight. If the medical condition is of no concern to doctors, the passenger gets immigration clearance using a biometric scan, go through a mobile security scanner and board a bus that takes him directly to the airport. This way, the passenger will be able to board the flight as part of the seamless travel experience, while luggage and duty-free purchases will be loaded onto the plane.

Also there is a need to consider the priority technologies that can be used to overcome the crisis:

- Serve passengers ahead of time, allowing sufficient time for precautions to identify and isolate infected passengers early.

- Conducting predictive analysis to identify those at risk, take the necessary action.
- Reducing interaction times and avoiding crowds at the airport to protect not only passengers, but also airport and airline employees.
- Compliance with sanitary standards, while maintaining a high quality of service (no queues, and stress).
- Ensuring compliance with security and immigration requirements

Using the latest technologies and rethinking the travel process makes it possible to eliminate many of the shortcomings that contribute to the spread of the virus. Experts identify the following tasks that can be solved using the scenario discussed above and reduce the risk of infection at the airport.

These measures will not only make air travel safer, but will also play an important role in curbing the further spread of the pandemic and, as a result, in the recovery of the global economy. At the same time, the industry was already late with the implementation of this concept, because the market demanded such innovations long before the pandemic [10]. For example, more than 50% of the respondents who participated in the 2016 IATA Global Passenger Survey would like to drop off their baggage and go through the check-in procedure outside the airport. Passengers have also asked for changes in immigration and security procedures, which are major sources of queues and stress at airports.

Experts prioritize the use of intelligent operational tools and passenger service technologies, as well as innovations in the field of artificial intelligence, biometrics and mobile communications. Similar technologies are already being used at airports around the world, albeit in fragments at the moment [18].

For example, the United Arab Emirates presented a technology solution that allows passengers and their luggage to be checked in from home or hotel, shopping malls or any other location outside the airport. Similar scenarios exist in the US, UK and Japan, with off-airport check-in being one of the key pillars of IATA's New Experience Travel Technologies (NEXTT) initiative [73].

Several hundred airports around the world are testing biometric identification, which allows to verify the identity of an air passenger using fingerprints or facial features. Emirates Airlines and Dubai immigration authorities have launched a "biometric travel" pilot project using facial recognition and passenger pre-screening to ensure a seamless travel experience. On this route, passengers are not required to present their passport or boarding pass from the check-in counter to the aircraft itself [94].

Recall that IATA recently introduced the concept of a Single Passenger Identifier (OneID), which can work effectively to standardize and use biometric indicators at airports for seamless and safe travel during a pandemic, including in an NDC environment.

In the aftermath of the COVID-19 outbreak, many apps have been developed to track people's location and check health conditions. These applications can also be used at airports by integrating with airline check-in systems to pre-authorize passengers based on location history [35].

British Airways is piloting AI-powered robotization to interact with passengers and provide real-time travel information, freeing airport staff to tackle time-consuming and energy-intensive problems. In essence, it is about a digital "concierge", which also simplifies and facilitates contactless travel.

Taking into consideration the situation, the Latvian government has decided to increase the authorized capital of JSC Riga International Airport by 54.42 million euros to overcome the crisis caused by the coronavirus (increasing the authorized capital of the company and cancelling the payment of dividends for the previous year). The authorized capital will be increased by 49.91 million euro and the amount of dividends for 2019, which will remain at the airport's disposal, will amount to 4.51 million euro. These steps will help stabilize the company. Riga airport is the main transport hub in the region ensuring international accessibility of Latvia, manages infrastructure strategically important for national security. It is important to ensure the operation of the airport in conditions of reduced demand [49].

In 2019, the airport showed the best financial performance in history, and the number of passengers reached 7.8 million. However, the government's decision to suspend international passenger traffic had a serious impact on the operation of the enterprise, it almost completely stopped economic activity. The CFTS reported earlier that the passenger traffic of Riga Airport in March 2020 fell by 56%. In the first half of April 2020, compared to the corresponding period of 2019, the number of passengers served at the airport decreased by 99.9%.

Given that the magnitude of the crisis is unknown, the airport management modelled various scenarios for economic recovery and developed an action plan to reduce costs. The increase in the authorized capital will allow the company to work effectively during an emergency and continue the most important investment projects.

Currently, the authorized capital of Riga Airport is 28.61 million euro [49]. As a way of overcoming the crisis, Riga Airport pays more attention to the development of the air cargo segment. Continuing the development of the air cargo segment, Riga Airport announced an international competition to attract an investor to the construction of a new multifunctional complex for handling and logistics of cargo at the airport.

To create the complex, investors are offered to obtain the right to develop a 1.5 hectare land plot in the northern part of the airport territory, where Riga Airport develops a specialized territory for air cargo handling, or RIX Cargo City, for 30 years.

According to the regulation on the competition, the investor is obliged to build an air cargo handling and logistics centre with an area of at least 4,000 square meters and the associated infrastructure that will provide services for at least 5,000 tons of cargo per year. However, the capacity of the land plot also allows for a larger-scale development - up to 9,000 square meters. The airport invites experienced investors to take part in the competition: the applicant or his partners must be enterprises operating in the air cargo handling business, which over the past five years have

received at least three years of continuous experience in this industry, ensuring a turnover of at least 5000 tons of aviation cargo per year.

Riga Airport considers the development of the air cargo segment to be one of its strategic goals. As the largest air cargo service centre in the Baltic region, Riga already offers multi-modal logistics solutions, high quality service and a favourable platform for cooperation. In recent years the airport has made large-scale investments in the creation of a modern, sustainable cargo handling infrastructure [67].

The land plot offered to investors is located next to the new apron for airport cargo handling, which began its work in October this year. The new apron covers an area of 95,000 square meters and is directly connected to the RIX Cargo City area. The multifunctional aircraft parking provided on the apron makes it possible to flexibly plan their placement and receive the largest aircraft of class F and E, while the underground hydrant system for refueling significantly increases the speed of refueling and, accordingly, aircraft maintenance, and also reduces the risks of environmental pollution.

On the territory of RIX Cargo City next year, a regional parcel processing complex of the logistics company DHL will start operating, the construction of which began this year.

It is planned that the total cargo handling capacity of RIX Cargo City will exceed 60,000 tons per year, which will allow Riga Airport to double its cargo turnover in the coming years.

The volume of air cargo transportation in Latvia is formed by four areas of activity: the export and import of goods with high added value, the transportation of goods by mail and e-commerce, the handling of air cargo in transit and the transit of non-military cargo to Afghanistan through the International Security Assistance Force (ISAF) Northern Supply Corridor. VAS Latvijas posts, which, in cooperation with the Chinese e-commerce giant Alibaba and Russian Post, has created a successful logistics solution, has also contributed to the global transport of e-commerce parcels, which has resulted in irregular cargo charter flights from China to Riga since 2017.

Last year, Riga Airport handled 27.2 thousand tons of cargo, and over ten months of this year - over 18 thousand tons. Riga Airport's cargo turnover is more than half of the total cargo turnover of the Baltic States. Riga Airport is a rapidly growing air traffic hub in Northern Europe. In 2019, Riga Airport handled over 7.8 million passengers. According to the results of a study carried out by Cirium, Riga Airport in 2019 was recognized as the fourth most punctual airport in the world in the group of medium-sized airports [67].

As a way of overcoming the crisis, many airports pay more attention to the use of IoT technologies. Airport systems based on IoT technologies have been introduced, for example, in Vaanta (Helsinki) in Finland, London City in the UK, Miami in the USA. Most airlines around the world use IoT technologies for aircraft maintenance and logistics.

Helsinki-Vantaa Airport improves service quality with Wi-Fi and i Beacons. Airport operator Finavia has partnered with Walkbase to install dozens of sensors in terminals to track passenger movements. Thus, companies prevent queues and send push notifications to passengers about profitable offers.

Virgin Atlantic has connected Boeing 787 aircraft to a wireless network to receive real-time data from IoT devices about the operation of aircraft nodes. Boeing planes now have wireless connectivity to almost everything from engines, flaps to landing gear.

London City Airport has developed an interconnected passenger tracking sensor network and data hub to provide location-based services to customers.

Lufthansa has launched a radio frequency tag network and mobile app that can track baggage from terminal to flight. Travellers can check information via Bluetooth.

Shenzhen Airport uses a robot to respond to emergencies. The robot can autonomously patrol the terminal and conduct intelligent monitoring, answer passengers' questions about flight information.

The level of the current activities in the sphere can be estimated by using the corresponding market data.

The Market Research Report estimates the global airport smart device market at \$ 31.10 billion by 2026, with a CAGR of 11.2%. Analysts attribute the growth of the market of smart devices to a number of reasons at once. By the penetration of smart phones, which track various large amounts of data, the desire to personalize services, improve user experience, modernize airports, as well as initiatives of governments around the world with regard to energy use, reducing emissions.

IoT capabilities have great prospects, they are being integrated into an increasing number of industries. Now there is the concept of industrial IoT, its own specificity in technologies for the Telecom industry, in logistics or retail. In aviation, IoT technologies are already helping to make air travel more comfortable and service both passengers and aircraft more efficient.

There is the concept of connected aircraft – a solution based on ADS-B technology (2020), which allows not only tracking the position of aircraft, but also providing many additional options – services for both airlines and passengers, and most importantly – making flights even safer. The Internet of Things is used to track cargo, organize navigation at airports and control passenger traffic. Also, with the help of special sensors connected to a single wireless network, the status of aircraft is monitored with the transmission of information online either to the airline or to the manufacturer (for example, the aircraft engine).

Due to the fact that IoT-based systems are being introduced into operation that allow passengers to undergo self-service procedures, in the post-pandemic conditions this will also be relevant, because it reduces the number of people in contact with each other. It is quite possible that this will become an additional value that airlines and airports can offer their customers.

The Internet of Things is being introduced to track cargo, organize navigation at airports, control passenger traffic, taking into account new requirements; systems are being introduced that allow passengers to undergo self-service procedures.

Transparency Market Research predicts that the segment of security systems will lead in the development of airport infrastructure. This explains the high demand

for biometric devices. Other areas of IoT application include air traffic management, baggage management, and passenger check-in.

The main growth of the IoT market in the aviation industry is the outlook for the near future. Only 12% of airport representatives are ready to benefit from the introduction of IoT technologies, and another 10% have not even studied these possibilities. These are the conclusions reached by analysts at Deloitte. The IoT can act as a driver of development for the industry and partly offset the losses that it is currently incurring, only if the technology is included in the main business model of airports.

A couple of years ago, Aviation Modifications Leaders, a company developing equipment for the aviation industry, announced the release of a new model of an Internet router for business jets. The plug-and-play device was supposed to increase speed by 200-300% over its original capacity, which would significantly reduce the cost of satellite communications. This is not an example of competition with other router manufacturers, but an opportunity to enter related industries, synergy of technologies in different areas.

Nevertheless, it is important to understand: the competition for such proposals will be great – companies specializing in IoT devices and smart systems are ready to offer all new solutions. The future of technology lies in deeper integration and universalization. This is the building of the system and the expansion of the product line, the possibilities of the user experience.

For example, the principal position of Perenio IoT is to offer all-in-one solutions, when no special training or experience is required, everything is as native as possible (in the best traditions of the out of the box - plug and play concept mentioned above): literally one can get the device out of the box, turn it on, and it already works. It is building the ecosystem around a unique IoT router, which combines the function of a Wi-Fi router and a smart home control centre, supports operation over a fixed Internet channel and over a 3G / 4G network. Equipped with a rechargeable battery, it provides up to 6 hours of internet access even without an electrical connection, and the SIM card slot makes it completely portable. This is a

clear plus for travellers, for example, who are worried about the quality of the connection during the trip.

The following key points of growth of IoT in the aviation industry can be identified. Airports are spending more on information technology, but competition is growing. Airports will need to make changes even faster. There are very few ready-made IoT solutions for airports. The industry will generate a demand for modern, new solutions in the field of safe, efficient integration of IT systems and improving work in the interests of passengers.

Safety in the aviation industry is a key standard. Compromising digital data can have serious consequences. IoT technology, which allows many disparate systems and devices to be interconnected and work together, can be one of the tools for solving security issues in the industry.

Technological solutions require investment. There may be problems with financing such projects. Given the small profits of the airports, the search for additional funds to finance the IoT project may become relevant [37].

Another way of overcoming the crisis is demonstrated by Pulkovo Airport (St. Petersburg). Pulkovo Airport ranks fourth in Russia in terms of the number of passengers served. Since 2010, it has been operated by Northern Capital Gateway LLC. The airport infrastructure includes 110 aircraft stands, 37 boarding gates, 88 check-in counters and 110 passport control booths.

Currently, Pulkovo Airport has the following task: launch the digital transformation of the airport, streamline accounting and management processes and support active business growth.

Behind the task stand the following prerequisites and motivation: a modern enterprise can no longer do without systems that ensure simplicity and transparency of all processes, especially when it comes to such a complex and complex business as an airport. At such facilities, technological reliability, complete controllability and well-coordinated work of all services are extremely important. And this requires flexible IT systems.

Such solutions are most in demand in a situation of active development and growth. Thus, the passenger traffic at Pulkovo Airport (operated by the Northern Capital Gateway, VVSS) more than doubled in 2010-19 – from 8.44 million to 19.6 million passengers per year. In 2018, when Pulkovo served more than 18 million people, the airport became one of the five fastest growing airports in Europe in its category.

Under these conditions, a high-performance system was needed that would ensure sustainable operation, taking into account the projected increase in passenger traffic. It was required to optimize the integration with the airport operating system AODB, taking into account its planned replacement and minimizing manual operations on the ERP side (Enterprise Resource Planning, enterprise resource management system), automation of many business processes and, in general, the creation of a single transparent system for effective airport management.

To achieve a new quality of processes, the company began the transition to the intelligent digital enterprise management platform SAP S/4HANA with In-Memory technology, machine learning capabilities and real-time process tracking.

To implement this decision, the Northern Capital Gateway launched a large-scale digital transformation of Pulkovo Airport. As of 2020, 16 innovative projects are being implemented here. Optimization and automation are going on in a number of areas, including manufacturing systems, transportation security, commercial activities, HR and others.

The SAP S/4HANA platform was launched in April 2020. The implementation partner was Novardis. Its specialists launched the project in a completely remote mode. The majority of key users, back office staff and contractor consultants were working remotely at that moment.

The new platform made it possible to automate the work of more than 70 different departments of the airport. In particular, it became possible to increase the level of automation of financial and accounting, real estate and supply management.

The solution also allows to optimize planning processes, including maintenance of the airport infrastructure. At the same time, work with airlines and

lessees is simplified: the platform provides a basis for providing new services and more flexible tariffs to contractors.

Based on the new solution, the company can integrate various software products and databases, creating a unified and transparent corporate information system. The airport management and specialists will receive more reliable and complete data on any operational processes. And this, in turn, will increase the transparency and efficiency of management and will allow providing customers with a better service.

The introduction of the new system has become the foundation for further digital development of Pulkovo. The SAP S/4 HANA platform has provided an opportunity to use current and promising technologies - data analysis and processing, machine learning, artificial intelligence and the Internet of things [55].

In October 2020, the project to launch an innovative platform was recognized as one of the leaders in digital transformation in the framework of the SAP Value Award (Fig. 3.3).

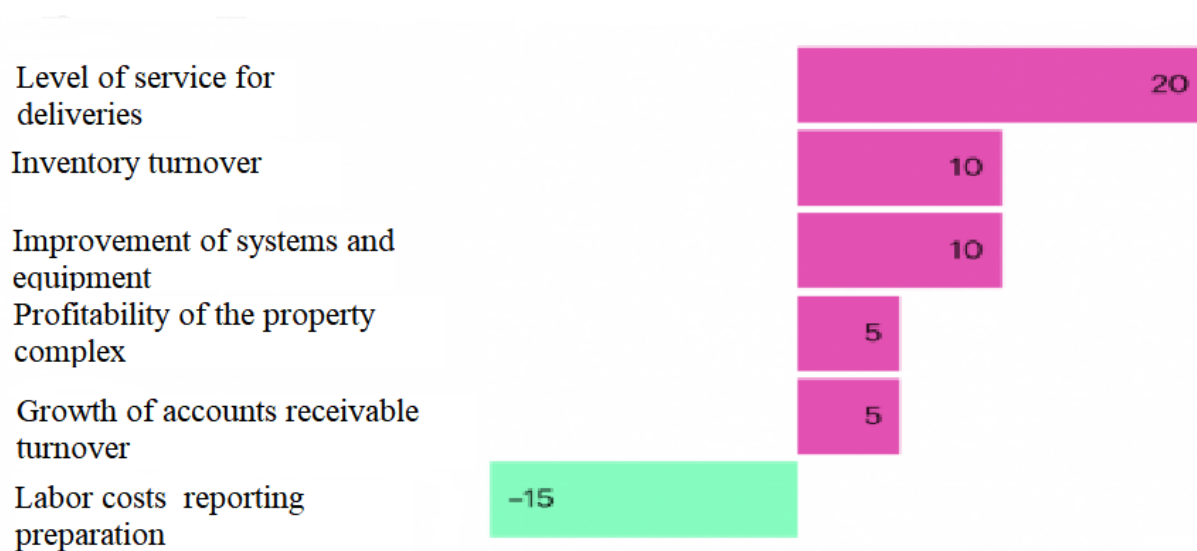


Fig. 3.3. Expected effects from the implementation of SAP S/4HANA in Pulkovo, %

Source: [55]

In the future, it is planned to increase the passenger traffic at Pulkovo, expand the infrastructure and route network, and also attract new airlines, including low-cost

carriers. The company expects that a single digital platform will not only support intensive growth, but also help Pulkovo become an intelligent airport [55].

Another way of overcoming the crisis we can observe in China where SITA, a leading IT provider in the air transport industry, has announced a massive roll-out of biometric technology to enable contactless pre-flight checks for passengers departing from Beijing International Airport (BCIA). The Smart Path system will significantly increase the level of travel safety and make it more comfortable to start.

Capital Airport, China's busiest and second-largest airport in the world, has begun to use SITA's automated solutions, from check-in and baggage drop-off to passport control, security screening and finally boarding. Passengers need to check in only once, all subsequent checks at the airport will be carried out using face recognition technology. More efficient and faster processing of traveller data can shorten check-in and identification times and ensure proper social distance for passengers. Also, new solutions eliminate the need to touch airport equipment, which is especially important during the post-COVID-19 pandemic.

SITA Smart Path has already demonstrated significant acceleration in processing travel data for passengers departing from Beijing International Airport, with more than 400 passengers boarding an Airbus A380 in less than 20 minutes. In addition, SITA Smart Path is establishing contactless payment for duty-free goods without presenting a boarding pass. This significantly improves the quality of customer service, making service in duty-free shops affordable and convenient at a time when airports are in dire need of increasing revenues.

Using the SITA Smart Path System gives passengers the ability to navigate and navigate airport key points seamlessly with biometric face scans instead of showing a boarding pass to reduce the risk of COVID-19 spread.

The innovation is integrated at more than 600 border checkpoints, including 250 biometric electronic gates, 80 self-check-in points and 30 self-service kiosks for reading biometric data on international passengers.

Today, traveller identification technology is used at several checkpoints at Beijing International Airport, including self-service check-in kiosks, self-service

kiosks and baggage drop-off counters, as well as at passport control, in the departure area and when boarding. These solutions improved the capacity of the air harbour and guaranteed conditions that exclude formal procedures with documents, and also allowed the staff to provide uninterrupted services to passengers in need of advice and assistance.

As China emerges from the COVID-19 pandemic, more passengers are turning to air transport services. To accelerate the recovery of the air travel industry and increase the confidence of travellers in flights, airports, ground handling companies and others in the industry must pay particular attention to the safety of passengers and their convenience in travel.

SITA Smart Path, now used in duty-free shops, is unlocking the potential of biometric solutions to improve safety, convenience and confidence in air travel, which will positively impact passenger growth and industry development [69].

It can be concluded in accordance with studying various measures taken by international airports all over the world that for now the implementation of modern it is really important for airports to ensure optimization of operational activity, in particular for of SE "IA "Boryspil" in crisis conditions.

3.2. Recommendations on optimizing activity of SE IA Boryspil

Boryspil International Airport is the largest Ukrainian airport with a total area of about 1,000 hectares. The forced downtime cost the country's main airport dearly. So, during the quarantine period, the airport could only deal with cargo transportation, business and special flights. This significantly reduced the profit of the enterprise and forced thousands of employees to be idle [79].

At the same time, the number of cargo flights accepted by Boryspil increased, while the amount of cargo decreased, since 85% of cargo was brought in the baggage compartments on regular flights. Thus, the airport's cargo turnover during the quarantine was 30% of the last year's level.

According to the results of April 2020, the number of passengers was less than half a percent, compared with April 2019, and the number of flights, taking into account the fact that cargo and special flights were still operated, was about 3%.

In May 2020, the passenger traffic of Boryspil Airport decreased to 28.2 thousand people – this is only 2% of the passenger traffic in May last year. All passengers were transported on non-scheduled flights. From January to May inclusive, the number of passengers served by the airport amounted to 2,470,543 passengers, which is 52% less than in the same period last year.

In April 2019, the airport's revenues amounted to UAH 380 million, in April 2020 – UAH 50 million. Thus, the airport lost about UAH 330 million per month.

As a support, the Ukrainian government has three times reduced the amount of dividends that Boryspil airport must pay to the state budget – from 90% to 30% of net profit. Thanks to this, the company will not be able to pay to the budget most of the net profit that it received in the first quarter before the introduction of restrictions on flights. The preferential policy for state airports will be in effect throughout 2020 [29].

However, in Boryspil itself, such assistance from the state was not appreciated. Though the airport has received as support a cut in dividends for this year to 30%, in conditions of losses, they could have left 100% - which is 100%, which is 30% - it would still be zero [79].

Riga airport can be considered as an example of full-fledged state support. In Latvia, the government allowed it not to pay 4.51 million Euro to the budget as dividends for work in 2019, and intends to allocate 49.91 million Euro to the state-owned enterprise in the form of injections into the authorized capital.

So, the management of Boryspil airport is preparing to get out of this crisis on their own [79]. As it turned out, Boryspil is going to get out of the crisis on its own by cutting staff. This year, due to the termination of regular flights and a drop in income, 700 workers will be laid off, which is 20% of the workforce.

Boryspil airport entered the crisis with a quantitative composition of 3700 people, as of yesterday the number was 3350. Approximately 350 are vacancies,

those who have ended the agreement, retirees. This was the first wave. Now it is preparing a change in the structure, which will entail a reduction in the number of employees, and it is planned to reach the figure of about 3 thousand employees this year [79].

After the ban on air travel in mid-March during these three months, Boryspil Airport reduced fixed costs during the quarantine from UAH 300 million per month to UAH 120 million per month.

Due to the quarantine and a drop in revenues by more than 90%, the airport was forced to seek help not only from the state, but also from financial partners. In May, Alfa-Bank Ukraine opened a credit line for Boryspil airport for \$10 million. The funds are needed to gradually restore operations.

It is worth recalling that Boryspil Airport intended to become the best hub centre in Eastern Europe by 2020. A hub is an interaction between an airport and a company that implements a transit policy using the airport infrastructure. The main carrier of Boryspil at the moment is Ukraine International Airlines. UIA has begun the process of forced lay-off of 900 employees, which is 35.2% of the company's staff, as of early 2020. In addition, it was announced that UIA's long-haul fleet will also be downsized. But UIA's problems did not arise because of the coronavirus crisis. Even before the pandemic and related restrictions, the company was in a very difficult financial position, with huge debts (to UkSATSE - more than a billion UAH, comparable to the debt of UIA and to the Boryspil airport, debts to foreign counterparties). It was UIA that spoke about the creation of the hub, and it promoted this idea, receiving significant discounts from Boryspil. For the airport, the number of passengers did not always translate into an increase in income.

With the resumption of air traffic, the prospects for the two largest Ukrainian airports are quite normal.

Boryspil had a surplus of personnel even before the crisis. They will bring the number of employees in line with the real needs of the airport, this will not affect the functionality of its work.

Table 3.1

Statistics of Boryspil International Airport

For 10 months of 2020	For 10 months of 2019
4530 759 passengers -65%	13 069 256 passengers
435 538 transfer passengers -84.9%	2877 510 transfer passengers
39 820 flights -57.9%	94 568 flights
October 2020	October 2019
472 544 passengers -67.3%	1445 833 passengers
17 456 transfer passengers -84.9%	279 656 transfer passengers
4 374 flights -56.9%	10 147 flights

Source: [57]

Passenger traffic at Boryspil International Airport is more than 4.5 million passengers in 10 months and has decreased by 65% compared to last year's figures. The results of Boryspil International Airport for 10 months of 2020 are as follows: 4,530,759 passengers (compared to the same period last year, the number of passengers decreased by 65%)[11].

It is also noted that over 10 months the airport served 435,538 transfer passengers (the number of passengers decreased by 84.9%) and a total of 39,820 flights (the number of flights decreased by 57.9%).

In addition, in October, passenger traffic decreased by 67.3% compared to last year and amounted to 472,544 passengers [11].

In order to overcome the crisis, the following optimization measures can be proposed for Boryspil International Airport:

1. Serve passengers ahead of time, allowing sufficient time for precautions to identify and isolate infected passengers early.
2. Conducting predictive analysis to identify those at risk, take the necessary action.
3. Reducing interaction times and avoiding crowds at the airport to protect not only passengers, but also airport and airline employees.
4. Compliance with sanitary standards, while maintaining a high quality of service (no queues, and stress).

5. Ensuring compliance with security and immigration requirements [19]. To pay more attention to the development of the air cargo segment, like Riga Airport does; for this, to make large-scale investments in the creation of a modern, sustainable cargo handling infrastructure.

6. Paying more attention to the use of IoT technologies.

7. Taking as an example Pulkovo Airport, to launch the digital transformation of the airport, streamline accounting and management processes and support active business growth, in order to establish systems that ensure simplicity and transparency of all processes, technological reliability, complete controllability and well-coordinated work of all services. This can help to increase the passenger traffic at Pulkovo, expand the infrastructure and route network, and also attract new airlines, including low-cost carriers.

3.3. Economic justification of the offered recommendations on optimizing activity

Results of an application of the offered recommendations on optimizing activity should be estimated by using the Key performance measurement areas and performance objectives identification of key performance measurement areas (KPA):

1. The first step in building a successful performance management process is to identify the KPA. Four KPAs should be identified to determine the economic and managerial efficiency of airports, namely safety, quality of service, productivity and cost-effectiveness, considering that States can select additional CRAs according to their objectives or specific conditions.

2. For each KPA, it is necessary to provide a number of indicators depending on the conditions at Boryspil International Airport (it may be appropriate to focus on an area where current or potential need for appropriate action and performance improvement has been identified). Defining performance targets should be done.

3. Establishing the performance target that reflects the need to achieve a goal of qualitatively improving existing performance in a specific area (e.g., reducing flight delays). At least one task should be defined for each selected KPA.

The correct approach to follow is to select a few high-level, feasible core tasks. In those cases where the Boryspil International Airport has little prior experience, it is better to start with a limited set of low-risk objectives.

6. Establishing the performance objectives that are often interrelated and therefore may well be counterbalanced. Once the relationship between the two has been identified, prioritization needs to be established to avoid any conflict between the objectives. In this respect, safety-related tasks should always be given top priority.

Establishing the prioritization that is based on risk management to identify the risks that require the most urgent action or that should be avoided, the risks that should be delegated or mitigated, and the risks that should be borne in mind. In addition, there is a need to align objectives at different levels of the organization to ensure full alignment and focus on priorities across all sectors of the airport. This will contribute to ensuring a well-coordinated team work and effective interaction between employees.

7. Establishing the choice of performance indicators of Boryspil International Airport.

Performance indicators are a means of quantifying actual, past and expected future performance and the extent to which performance objectives are being met and should be met. Performance indicators, which deal with the most important aspects of airport operations, are often referred to as key performance indicators (KPIs). In order for these indicators to be meaningful, they must correctly reflect the direction of the relevant performance objectives and, therefore, can only be set taking into account specific objectives in this area.

8. Detailize performance indicators that can be used to develop a performance management system and are relevant to the four KPAs used in different jurisdictions.

If performance indicators are not directly measured, they should be calculated using well-defined formulas based on specific related parameters.

The related parameters determine the data that must be used to calculate the values of performance indicators.

9. Runway incidents and incidents of runway incursions are a major safety concern facing airports. Runway incursion is often defined as the appearance on an airport runway of any aircraft, vehicle, person or object that creates a risk of collision or leads to a reduction in separation during take-off, landing or landing of an aircraft.

Possible indicators include:

a) the number of runway accidents per thousand take-off and landing operations;

b) the number of runway fatalities per thousand take-off and landing operations;

c) the number of accidents per thousand hours of work;

d) runway incidents per thousand take-offs and landings; and e) bird strikes per thousand take-offs and landings.

10. Quality of service can be measured taking into account the interests of both aircraft operators and end users. Possible indicators include:

a) average daily airport capacity (number of daily take-off and landing operations);

b) the number of justified flight delays; and

c) the average duration of delays per flight.

Survey of passengers regarding the quality of airport services in Boryspil International Airport:

d) time spent in line at security searches;

e) percentage of time spent on check-in and baggage claim during business hours;

f) ease of orientation within the airport;

g) accuracy of screen information;

h) cleanliness of wash-rooms; and

i) overall passenger satisfaction.

11. Productivity measures reflect the relationship between airport performance (e.g. number of take-offs and landings, number of passengers and tonnage handled) and resources used (e.g. number of employees, sections and airport facilities).

Possible indicators include:

- a) the number of take-off and landing operations per employee;
- b) number of take-off and landing operations per gateway point;
- c) number of passengers per employee; and d) tonnage of cargo per employee.

12. Cost-effectiveness measures reflect what financial costs (e.g. total airport costs, infrastructure costs and operating costs) are required to achieve a particular outcome (e.g. number of take-offs and landings, passengers checked out and baggage handled).

Possible indicators for Boryspil International Airport include:

- a) total cost per take-off and landing operation;
- b) the total amount of expenses per passenger;
- c) total cost per 1,000 transport units; and
- d) percentage of staff costs in relation to turnover.

13. Evaluating or measuring performance is possible if the necessary data on performance indicators and performance targets and the actual results achieved in this area are available and regularly provided, at least once a year. Evaluation of effectiveness implies constant monitoring of performance indicators and monitoring the progress of the tasks set in this area and the achievement of the corresponding target parameters.

The key to evaluating performance of Boryspil International Airport is to come to an understanding of the actual reasons for high or low performance and explain them to high-level decision-makers. To this end, leaders working on the issue should compare actual results against performance targets and analyze, chronologically, trends in performance. They should not only assess the overall picture (for example, achieved overall and average annual performance indicators), but, where possible, consider in detail the individual aspects. If an airport is performing better than

expected, airport managers need to identify which factors contribute to higher efficiency and consider whether these factors can be used in other areas. Where gaps exist, where performance falls short of expectations despite proactive measures taken to meet targets, managers should identify the root causes of the problem and how to address it. It is important to note that the purpose of the assessment is not to punish those responsible, but to help them achieve higher performance targets.

14. An integral part of the effectiveness assessment is the preparation of recommendations where it is possible and appropriate, given the level of analysis performed. Recommendations are generally divided into the following categories (although this list is not exhaustive):

a) recommendations related to the need to improve the collection of performance data;

b) proposed initiatives to address identified performance gaps;

c) proposals to accelerate or postpone efficiency measures based on anticipated developments in air travel demand and projected changes in performance indicators, and

d) organizational recommendations (task force creation, action plan, etc.) to actually start implementation of the above recommendations.

15. If inconsistencies are identified between expectations and targets and performance targets, guidance may include the need to (re) define performance targets and / or the need to set revised performance targets and targets.

16. Airport performance is often assessed through comparisons, both internal and external.

Internal benchmarking (or introspection) of Boryspil International Airport means comparing an airport's own performance indicators over a period of time. Within an individual airport, this may include checking the average performance of similar structures, or the efficiency of a particular structure at a given point in time. In the first case, the performance indicators of individual structures are compared with the average level of efficiency, and in the second case, different indicators of the

efficiency of the functioning of one structure over a certain period of time are compared with its indicator for the period being checked.

External benchmarking involves comparing airports to each other. The term “airport benchmarking” generally refers to a process designed to compare an airport with a “baseline”, a measure of the level that could reasonably be expected to be achieved in a given environment by the airport with the highest performance; however, the calculated indicator itself is based on the performance achieved in the corresponding comparable group of airports. It is imperative to note that extreme caution must be exercised in making such comparisons, as comparing airport performance is difficult and often misleading, especially when using individual performance metrics. The measures used by one airport cannot be compared with those used by another airport, in particular due to differences in the nature of the operating models applied, in the operating environment and the stage of the airport's investment cycle. Definitions, content, data acquisition and accounting practices may also differ. The size of the airport and the variety of its operational processes are another factor that must be taken into account. Given the extent to which such comparisons are made, extreme caution should be exercised in assessing results, especially when the goal is to understand the factors that increase and decrease performance and to implement best practices on this basis.

17. If airport managers are attempting to compare the performance of their airport with other airports, the analysis should adequately reflect the differences in their operating, structural, commercial and organizational environment. Accordingly, it is extremely important, first of all, to establish equal requirements for the main performance indicators used in the comparison. For this reason, airports, in an effort to better understand the factors that contribute to efficiency, often resort to comparing the performance of individual activities at the process level, based on the fact that this is a more convenient approach to assessing data and various points related to the specifics of the business, than analyzing individual performance indicators.

Comparing cost units of different airports may be more realistic than comparing one airport to another in full.

18. Benchmarks should be easy to understand at the decision-making level and serve as a basis for discussion and exchange of information among all stakeholders. This approach can:

- a) increase the transparency of the performance management process;
- b) promote awareness of opportunities to improve the performance of individual airports (setting targets based on awareness of capabilities);
- c) highlight best practices for efficiency gains by identifying high performance or high quality services and / or processes;
- d) promote better coordination and planning at the regional level, thereby streamlining efforts and eliminating duplication;
- e) facilitate constructive dialogue with users and other stakeholders; and
- f) provide global reach to enhance information opportunities.

19. Evaluation of performance can assist in making and justifying investment decisions for Boryspil International Airport.

As investment decisions for airport modernization become more complex, the need for detailed performance evaluations increases. Identifying best practices and their associated levels of performance and quality can help calculate the potential benefits or returns to be gained from investments in facilities and equipment, as well as the optimal size of the investment.

20. The results of performance assessments can be used to forecast capital investment and staffing needs for airport development. Forecasts are an important part of the cost-benefit analysis of infrastructure development.

21. Providing information is an essential component of Boryspil International Airport performance management process. While the provision of information is often the responsibility of a legitimate monopoly, which is consistent with its monopoly rights, and a public company whose registered securities are traded on the market, it is also an important component of the performance management process for all airports. Periodic dissemination of appropriate performance information can build public confidence in the airport and create effective dialogue between all stakeholders. It can also help to define objectives / targets and stimulate a process of

continuous review of measures needed to improve efficiency and seize opportunities based on proposed concrete methods for assessing airport performance against objectives and targets.

22. Typically, performance reports describe the indicators set, the targets selected and the actual results achieved. The selection and reporting of at least one relevant performance indicator and its target for each of the selected KPAs. To help readers understand the report's findings correctly, the report itself, or with reference to a white paper, provides a summary analysis of the performance evaluations, explaining how the evaluations were conducted. How detailed the information provided will depend on the circumstances.

For example, if information is to be used to regulate price caps, its transparency can be very high.

23. The content of performance reports should not be limited to an analysis of past performance. They, where possible, can contain promising conclusions, assessing the required bandwidth in the future.

24. To ensure transparency, performance reports should be readily available and made available in a timely manner to all stakeholders (for example, by posting performance information in official sources whenever possible and practical). Whether or not performance reports are subject to independent scrutiny is at the discretion of the state.

From the second half of 2019, Boryspil International Airport is affected by negative external factors:

- Government's decision to increase the deduction of part of the net profit (dividends) to the state budget. In 2019, 134% of the amount of net profit was withdrawn from the Airport in favor of the State (including 585% of the amount of net profit of the Airport in the 4th quarter of 2019). As a result, the Company loses liquidity (already in the first quarter of 2020 had no funds to pay salaries) and was deprived of the opportunity to implement infrastructure projects,

- An increase in the share of low-cost routes is provided (increase the share of air routes performed on the low-cost model from 38% to 63%). As a result, the

profitability of passenger traffic in Boryspil International Airport is declining: revenue growth rates are lower than passenger traffic growth rates,

- There are discriminatory norms in relation to Ukrainian airlines compared to foreign ones (in more detail - in section 2. Revenues), as a result of which Ukrainian airlines that create a hub at the Airport lose their competitiveness,

- Since the beginning of 2020, the coronavirus epidemic has had an extremely negative impact on passenger traffic and the financial condition of air carriers. According to the forecasts of IATA, ACI and Boeing, the decline in passenger traffic in 2020 may reach approximately 50% compared to 2019, namely to the level of 7,090 thousand passengers served for SE IA "Boryspil". This scenario is the most likely, and involves limiting the costs of the Company, so it is accepted for the calculation of the cost component of the financial plan. At the same time, the profitability of Boryspil International Airport can be achieved only with a significant increase in passenger traffic: + 60% daily to the level of 2019 starting from May 11, 2020. This scenario is considered optimistic and provides an annual increase in passenger traffic to 17,210,000 passengers. According to the optimistic scenario, the revenue component of the financial plan (revenues from airport fees) is calculated.

Under these conditions, Boryspil International Airport has implemented a set of crisis measures, the implementation of which will ensure the return of the airport to profitability in 2022.

Boryspil Airport is one of the few state-owned enterprises that in 2015-2018 carried out an effective transformation of the business model and in a few years has transformed from a stagnant and unprofitable to a highly efficient and highly profitable European leader in terms of growth.

However, the accumulation of negative external factors leads to a decline in passenger traffic and losses in 2020. Forecasts of the resumption of IATA air traffic show the return of airports to 2019 not earlier than 2022.

The airport has calculated several options/scenarios for the forecast of passenger traffic for 2020. According to the "most probable" scenario, which is based on the assumption that from the second half of June 2020 will begin a gradual

recovery, including regular flights, the number of passengers served may be 7,090 thousand passengers, which is 50.6% less than planned in 2019 year and 53.5% lower than in 2019. This scenario is in line with IATA, ACI and Boeing forecasts.

Also, according to the order of the Ministry of Infrastructure, the growth of passenger traffic through the Airport for 2020 was calculated, which would provide an increase in revenues in order to obtain a positive financial result in 2020, taking into account downtime until May 11, 2020. This required a daily increase in passenger traffic by 60% compared to the level of 2019, starting from May 11, 2020. This scenario was considered "optimistic" and provided for an annual increase in passenger traffic to 17,210,000 passengers (did not come true).

Crisis issues of Boryspil International Airport for 2020:

- introduction of a picture and flight bans in March 2020 to May 11, 2020,
- cancellation of unprofitable flights by UIA before the announcement of quarantine,
- termination of flights to Ukraine of several European airlines (British Airways, Brussels Airlines, Aigle Azure, Nordica, others) for economic reasons,
- the presence of discriminatory norms in relation to Ukrainian airlines compared to foreign ones:
 - excise duties on aviation fuel in Ukraine are paid only by Ukrainian air carriers,
 - ban on flights over some countries (Russia, Iran, etc.) only for Ukrainian air carriers,
 - problems with customs clearance of spare parts for aircraft in Ukraine,
 - availability of VAT on domestic flights operated only by Ukrainian carriers,
 - extremely high (2-3 times higher than European) rates of payment to UkSATSE for air navigation in the area of the airfield of Boryspil International Airport, which has a negative impact primarily on Ukrainian airlines based in Boryspil International Airport,

- slowing down the development of the Airport's infrastructure through the redirection of funds received from air carriers to the State Budget of Ukraine instead of the development of infrastructure for air carriers.

Boryspil International Airport is actively working to compensate for these external factors, especially to maximally support existing carriers. During 2016-2019, the airport team demonstrated the best indicators in Europe to attract flights and passenger flows, and even in negative conditions in 2020 will ensure the operation of the Airport.

Boryspil International Airport maintains its core business in three segments: aviation services, ancillary aviation services and commercial services.

The aviation services segment includes aviation services, including the use of terminals and runways, as well as aviation security. Revenues of this segment are formed at the expense of airport fees (boarding and alignment, passenger service at the airport, aviation security, over-parking). Such services are mainly subject to regulation.

The segment of ancillary aviation services includes certain passenger services, ground handling of aircraft, provision of refueling services, provision of food, as well as cargo service.

The segment of commercial services includes the provision of space to other companies for the services of air carriers and passengers, for retail trade, for advertising activities, as well as the provision of car parking services, hotel services, utilities, etc.

Other income includes income from exchange rate differences, income from balances on current accounts with banks, etc. The decrease in these revenues in 2020 compared to the plan for 2019 is primarily due to the transition to IFRS, according to which income and expenses on exchange rate differences are shown in a condensed form (net result).

Dynamics of income in the most probable scenario of 2018-2020 for Boryspil International Airport is given in Table 3.2.

Table 3.2

Dynamics of income in the most probable scenario of 2018-2020 for Boryspil
International Airport, thousand UAH

Indicator	2018 fact	2019 plan	2019 fact	2020 plan	% increase in the plan for 2020 to the fact of 2018	% increase in the plan for 2020 to the plan for 2019	% increase in the plan for 2020 to the fact of 2019
Total income, including:	4453 965	4,686,877	4,745,930	2 661 686	-40.2%	-43.2%	-43.9%
airport fees	2 669 402	2 815 809	2 814 020	1,540,556	-42.3%	-45.3%	-45.3%
passenger fee	1 229 189	1 233 980	1 276 990	716 614	-41.7%	-41.9%	-43.9%
landing-take-off fee	760 998	747 779	764 576	422 264	-44.5%	-43.5%	-44.8%
aviation security fee	654 510	804 163	748 519	380 100	-41.9%	-52.7%	-49.2%
parking fee	24 705	29 887	23 935	21 578	-12.7%	-27.8%	-9.8%
ancillary aviation services	783 946	817 724	751 246	512 764	-34.6%	-37.3%	-31.7%
Commercial services, including	846 803	924 744	979 281	561 631	-33.7%	-39.3%	-42.6%
rental income and% of revenue	521 114	547 394	525 987	277 544	-46.7%	-49.3%	-47.2%
services for VIP passengers	118 451	118 050	161 738	80 537	-32.0%	-31.8%	-50.2%
fuel and lubricant supply services	79 854	80 000	91 036	55 732	-30.2%	-30.3%	-38.8%
cargo terminal services	35 601	40 050	40 334	36 764	3,3%	-8.2%	-8.9%
parking services	30 754	37 500	57 508	32 854	6.8%	-12.4%	-42.9%
hotel services	32 238	35 000	33 700	16 028	-50.3%	-54.2%	-52.4%
others	28 791	66 750	68 978	62 172	115.9%	-6.9%	-9.9%
others (financial, course, etc.)	153 814	128 600	201 383	46 735	-69.6%	-63.7%	-76.8%

Source: on the basis of Financial plan of Boryspil International Airport for 2020 [57]

Revenue dynamics in the optimistic scenario for Boryspil International Airport in 2018-2020 is given in Table 3.3.

Table 3.3

Revenue dynamics in the optimistic scenario for Boryspil International Airport in 2018-2020, thousand UAH

Indicator	2018 fact	2019 plan	2019 fact	2020 plan	% increase in the plan for 2020 to the fact of 2018	% increase in the plan for 2020 to the plan for 2019	% increase in the plan for 2020 to the fact of 2019
Total income, including:	4 453 965	4,686,877	4,745,930	4,592,286	3.1%	-2.0%	-3.2%
airport fees, including	2 669 402	2 815 809	2 814 020	3 471 156	30.0%	23.3%	23.3%
passenger fee	1 229 189	1 233 980	1 276 990	1,591,427	29.5%	29.0%	24.6%
landing-take-off fee	760 998	747 779	764 576	941 414	23.7%	25.9%	23.1%
aviation security fee	654 510	804 163	748 519	916 737	40.1%	14.0%	22.5%
parking fee	24 705	29 887	23 935	21 578	-12.7%	-27.8%	-9.8%
ancillary aviation services	783 946	817 724	751 246	512 764	-34.6%	-37.3%	-31.7%
commercial services, including	846 803	924 744	979 281	561 631	-33.7%	-39.3%	-42.6%
rental income and % of revenue	521 114	547 394	525 987	277 544	-46.7%	-49.3%	-47.2%
services for VIP passengers	118 451	118 050	161 738	80 537	-32.0%	-31.8%	-50.2%
fuel and lubricant supply services	79 854	80 000	91 036	55 732	-30.2%	-30.3%	38.8%
cargo terminal services	35 601	40 050	40 334	36 764	3.3%	-8.2%	-8.9%
parking services	30 754	37 500	57 508	32 854	6.8%	-12.4%	-42.9%
hotel services	32 238	35 000	33 700	16 028	-50.3%	-54.2%	-52.4%
others	28 791	66 750	68 978	62 172	115.9%	-6.9%	-9.9%
others (financial, course, etc.)	153 814	128 600	201 383	46 735	-69.6%	-63.7%	-76.8%

Source: on the basis of Financial plan of Boryspil International Airport for 2020 [57]

When planning revenues from the main airport fees for 2020, a gradual reduction of UAH exchange rate during the year to UAH 29.5 per US dollar by the end of 2020 was set.

Planned revenues for 2020 were calculated on the basis of tariffs for Airport services and rates for airport fees (boarding and alignment, passenger service at the airport, aviation security, emergency parking) taking into account the application of incentive factors (discounts) to airport charges. That of up to 80% are applied to certain airport charges (in 2020: boarding and alignment, passenger service at the airport, aviation security) and apply to all carriers in accordance with transparent and non-discriminatory criteria.

As there is uncertainty about the possibility of implementing the optimistic scenario, the difference in income between the optimistic and the most probable scenario is reflected in the financial plan as part of receivables at the end of 2020.

Other operating income is planned at UAH 75.9 million and includes, first of all, income received from operating lease.

It should be noted that the planned amount of rental income takes into account the reduction for the period of quarantine rent by 50% and the reduction of leased space.

In general, according to this article, the decrease in the amount of planned income, relative to the fact of 2019 and 2018 is due to the reclassification of income in accordance with the requirements of IFRS:

- the result from currency transactions is separated and included in other income (income from operating exchange rate differences and exchange rate differences received during currency purchase and sale transactions);

- interest received on balances on current accounts in banks is planned as part of financial income.

So, the ways for the successful improvement of business activity of Boryspil International Airport take into account sharp reduction in air transportation volumes and strict quarantine measures, as well as some provisions of the strategic development after overcoming crisis and gives some orientations on the needed adjustments.

CONCLUSIONS

It was concluded that the main sources of development of open systems are internal contradictions, which are conditioned and localized by the processes of self-organization of the system; fluctuations in the environment due to various changes in the enterprise environment localized mechanisms of negative feedback.

A strategy is required by any successful company to determine which direction it will evolve. In essence, the choice of strategy means that it chooses a specific direction from all possible ways of development and methods of action that are opened up to the enterprise. A well-developed strategy is the basis for increasing the firm's competitiveness, a strong competitive position, and the formation of such an organization, which, by improving the management structure and enhancing organizational culture, could successfully work in harsh market conditions. The process of strategy development, which includes strategic planning and strategic management, allows: to support the future-oriented way of thinking and behavior; coordinate decisions and actions in the field of marketing; serves to inform employees about goals and resources needed; motivates employees if achievement of the goals of the company depends on the achievement of their personal goals (career, salary); creates preconditions for evaluating and controlling the results. To develop a strategy, each business must realize such important elements of its activity: mission, competitive advantages, peculiarities of business organization, markets, where the firm operates, products (service), resources, structure, production program, organizational culture.

The directions of expansion of business activity of the enterprise are determined by the market in which the enterprise operates (old or new for it), with which product (old or new for the enterprise) it goes to the market.

Strategic planning provides the basis for all management decisions, the functions of organization, motivation and control, focused on the development of strategic plans. The process of strategic planning provides the basis for managing the enterprise.

It was determined that strategic planning is the process of identifying the organization's main goals, the resources needed to achieve them, and policies aimed at the acquisition and use of these resources. Strategic planning aims at ensuring long-term business performance and mastering its new opportunities. Given the long-term nature of the implementation of the development strategy, it is necessary to lay in advance the ability of the company to take appropriate action to change the market situation. Identifying opportunities for enterprise development is based on a thorough diagnosis of the internal and external environment.

It was determined that business optimization is the process of identifying and implementing new methods that make the business more efficient and cost effective. Optimizing business processes can ensure the following benefits: market compliance, streamlined operations, reduced risks, well-utilized resources, consistency, assured quality, end-to-end visibility, etc.

It was noted that business optimization should include measurement of productivity, efficiency and performance; identifying areas for improvement; introducing new methods and processes; measuring and comparing results and cycle repeating.

Thus, the purpose of optimization is to achieve the best design relative to a set of prioritized criteria or constraints of the enterprise's development including maximizing factors such as productivity, strength, reliability, longevity, efficiency, and utilization.

Within the analysis of financial and economical results of the Boryspil and its place on the market, its strengths and weaknesses it was noted that it plays a vital role in the Ukrainian economy supporting functioning and development of transport system of Ukraine. Boryspil Airport is the largest international airport of Ukraine, which provides about 60-65% of Ukraine's air passenger traffic and is the base for the leading Ukrainian airlines.

It was identified that the stable growth of the volume of passenger traffic is ensured not only by the cooperation with the largest carrier of "IA "Boryspil", the Ukraine International Airlines, but also the attraction of new air carriers. Also the

airport tries to develop cargo transportation base, in particular the largest share of the cargo and mail volumes are carried on passenger flights; the enterprise has also attracted several airlines that operate special cargo flights on cargo aircraft (namely, Silk Way Airlines, DHL).

Main tasks of Boryspil airport were analyzed: getting profit from the economic activity, timely satisfaction of economic demand and public needs for the provision of air transportation services and ensuring aviation and flight safety.

Financial indicators of the SE "IA "Boryspil" were calculated. Indicators of liquidity and solvency were at a good level, they increased rapidly due to the increase of current assets while reducing the volume of current liabilities. Financial sustainability ratios showed that Boryspil airport has large own current assets available for current operations, has appropriate financial base and sustainability. Business activity ratios showed ineffective debt management of Boryspil airport. Profitability of financial and economic activity showed ineffective use.

Regarding conducted analysis, SE "IA "Boryspil" was successful and profitable before the Covid-19 spread. After the sharp decline of aviation services and closing the international and domestic air service, caused by epidemic situation, airport began to suffer from losses. Average estimated losses for the 1 quarter of 2020 accounted to UAH 115.449.190 mln.

It can be concluded that the main strategy for development of the SE "IA "Boryspil" can be in business process improvement and optimization of business activity on the whole through:

1. Serving passengers ahead of time, allowing sufficient time for precautions to identify and isolate infected passengers early.
2. Conducting predictive analysis to identify those at risk, take the necessary action.
3. Reducing interaction times and avoiding crowds at the airport to protect not only passengers, but also airport and airline employees.
4. Compliance with sanitary standards, while maintaining a high quality of service (no queues, and stress).

5. Ensuring compliance with security and immigration requirements.
6. Paying more attention to the use of IoT technologies.
7. Taking as an example Pulkovo Airport, to launch the digital transformation of the airport, streamline accounting and management processes and support active business growth, in order to establish systems that ensure simplicity and transparency of all processes, technological reliability, complete controllability and well-coordinated work of all services.

Thus, proposals on optimizing activity of SE “IA “Borispil” based on system approach ensuring operational and strategic aspects’ improvement taking into account international experience of airports in overcoming crisis conditions and potential limitations of the airport should be implemented.

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Financial statements in 2017

Додаток 1
до Наказового положення (стандарту)
бухгалтерського обліку 1 "Загальні вимоги до фінансової звітності"

Підприємство	ДЕРЖАВНЕ ПІДПРИЄМСТВО "МІЖНАРОДНИЙ АЕРОПОРТ "БОРИСПІЛЬ"	Дата (рік, місяць, число)	2018	10	01
Територія	КИЇВСЬКА	за ЄДРПОУ	20572069		
Організаційно-правова форма господарювання	Державне підприємство	за КОАТУУ	3220883201		
Вид економічної діяльності	Допоміжне обслуговування авіаційного транспорту	за КОПФГ	140		
Середня кількість працівників	1 3937	за КВЕД	52.23		
Адреса, телефон	БОРИСПІЛЬ-7, с. ГОРА, БОРИСПІЛЬСЬКИЙ РАЙОН, КИЇВСЬКА ОБЛ., 08300		2817181		
Одиниця виміру: тис. грн. без десятичного знака (окрім розділу IV Звіту про фінансові результати (Звіту про сукупний дохід) (форма №2), грошові показники якого виводяться в гривнях з копійками)					
Складено (зробити позначку "V" у відповідній клітинці):					
за положеннями (стандартами) бухгалтерського обліку					
за міжнародними стандартами фінансової звітності					

Баланс (Звіт про фінансовий стан)
на 31 грудня 2017 р.

Форма №1 Код за ДКУД 1801001

А К Т И В	Код радянськ	На початок звітного періоду	На кінець звітного періоду
1	2	3	4
I. Необоротні активи			
Нематеріальні активи	1000	1 449 198	1 458 839
первісна вартість	1001	1 468 243	1 482 592
накопичена амортизація	1002	19 045	23 753
Нематеріальні капітальні інвестиції	1005	958 060	534 460
Основні засоби	1010	5 114 808	5 484 605
первісна вартість	1011	12 469 863	13 157 436
знос	1012	7 355 055	7 672 831
Інвестиційна нерухомість	1015	-	-
Первісна вартість інвестиційної нерухомості	1016	-	-
Знос інвестиційної нерухомості	1017	-	-
Довгострокові біологічні активи	1020	-	-
Первісна вартість довгострокових біологічних активів	1021	-	-
Накопичена амортизація довгострокових біологічних активів	1022	-	-
Довгострокові фінансові інвестиції:			
які обліковуються за методом участі в капіталі інших підприємств	1030	-	-
інші фінансові інвестиції	1035	1 993	1 993
Довгострокова дебіторська заборгованість	1040	17 071	19 176
Відстрочені податкові активи	1045	51 307	79 333
Гудвіл	1050	-	-
Відстрочені аквізиційні витрати	1060	-	-
Залишок коштів у централізованих страхових резервних фондах	1065	-	-
Інші необоротні активи	1090	-	-
Усього за розділом I	1095	7 592 437	7 578 406
II. Оборотні активи			
Запаси	1100	154 635	177 504
Виробничі запаси	1101	154 606	177 435
Незавершене виробництво	1102	-	-
Готова продукція	1103	-	-
Товари	1104	29	69
Поточні біологічні активи	1110	28	7
Депозити переотрадування	1115	-	-
Векселі одержані	1120	4 172	74 172
Дебіторська заборгованість за продукцію, товари, роботи, послуги	1125	277 481	322 993
Дебіторська заборгованість за розрахунками:			
за виданими авансами	1130	38 108	81 433
з бюджетом	1135	100 195	19 411
у тому числі з податку на прибуток	1136	99 256	-
Дебіторська заборгованість за розрахунками з нарахованих доходів	1140	6 983	6 021
Дебіторська заборгованість за розрахунками із внутрішніх розрахунків	1145	4 137	4 137
Інші поточні дебіторська заборгованість	1155	327 577	173 640
Поточні фінансові інвестиції	1160	-	-
Гроші та їх еквіваленти	1165	617 800	479 146
Готівка	1166	3	3
Расуни в банках	1167	616 938	479 143
Витрати майбутніх періодів	1170	205	1 316
Частина переотрадування у страхових резервах:			
у тому числі в:			
резервах довгострокових зобов'язань	1181	-	-
резервах збитків або резервах належних виплат	1182	-	-
резервах незароблених цесій	1183	-	-

Appendix A continuation

інших страхових резервах	1184	-	-
Інші оборотні активи	1190	11 976	41 713
Усього за розділом II	1195	1 543 297	1 381 493
III. Необоротні активи, утримувані для продажу, та групи вибутті	1200	-	25
Баланс	1300	9 135 734	8 959 924

Пасив	Код радян	На початок звітного періоду	На кінець звітного періоду
1	2	3	4
I. Власний капітал			
Зареєстрований (пайовий) капітал	1400	556 521	556 521
Внески до незареєстрованого статутного капіталу	1401	-	-
Капітал у дооцінках	1405	1 695 347	1 695 575
Додатковий капітал	1410	2 504 049	2 791 422
Емсі/Інші доходи	1411	-	-
Накопичені курсові різниці	1412	-	-
Резервний капітал	1415	-	-
Нерозподілений прибуток (непокритий збиток)	1420	1 045 383	1 170 511
Неоплачений капітал	1425	(-)	(-)
Вилучений капітал	1430	(-)	(-)
Інші резерви	1435	-	-
Усього за розділом I	1495	5 801 300	6 212 029
II. Довгострокові зобов'язання і забезпечення			
Відстрочені податкові зобов'язання	1500	-	-
Пенсійні зобов'язання	1505	-	-
Довгострокові кредити банків	1510	1 832 495	1 401 897
Інші довгострокові зобов'язання	1515	250 189	-
Довгострокові забезпечення	1520	-	-
Довгострокові забезпечення витрат персоналу	1521	-	-
Цільове фінансування	1525	4	4
Благочинна допомога	1526	-	-
Страхові резерви	1530	-	-
у тому числі:	1531	-	-
резерв довгострокових зобов'язань			
резерв збитків або резерв наслідкових витрат	1532	-	-
резерв незароблених премій	1533	-	-
інші страхові резерви	1534	-	-
Інвестиційні контракти	1535	-	-
Приватний фонд	1540	-	-
Резерв на виплату дивидендів	1545	-	-
Усього за розділом II	1595	2 082 688	1 401 901
III. Поточні зобов'язання і забезпечення			
Короткострокові кредити банків	1600	-	-
Вимоги видані	1605	-	-
Поточна кредиторська зобов'язаність за:			
довгостроковими зобов'язаннями	1610	366 229	397 352
товари, роботи, послуги	1615	114 135	104 934
розрахунками з бюджетом	1620	275 852	350 715
у тому числі з податку на прибуток	1621	-	31 143
розрахунками зі страхування	1625	2 752	5 737
розрахунками з оплати праці	1630	18 654	31 498
Поточна кредиторська зобов'язаність за одержаними авансами	1635	27 215	31 170
Поточна кредиторська зобов'язаність за розрахунками з учасниками	1640	-	-
Поточна кредиторська зобов'язаність із внутрішніх розрахунків	1645	4 143	4 143
Поточна кредиторська зобов'язаність за страховою діяльністю	1650	-	-
Поточні забезпечення	1660	20 463	31 078
Доходи майбутніх періодів	1665	376 527	345 651
Відстрочені комісійні доходи від перестраховиків	1670	-	-
Інші поточні зобов'язання	1690	47 756	43 716
Усього за розділом III	1695	1 251 746	1 345 994
IV. Зобов'язання, пов'язані з необоротними активами, утримуваними для продажу, та групами вибутті	1700	-	-
V. Чиста частість акційні надбавки пенсійного фонду	1800	-	-
Баланс	1900	9 135 734	8 959 924

Керівник

Рибісін Павло Борисович

Головний бухгалтер

Шилова Ганна Олександрівна

¹ Визначається в порядку, визначеному центральним органом виконавчої влади, що реалізує державну політику у сфері статистики.

Appendix A continuation

Підприємство	ДЕРЖАВНЕ ПІДПРИЄМСТВО "МІЖНАРОДНИЙ АЕРОПОРТ "БОРИСПІЛЬ" (наблюдати)	Дата (рік, місяць, число) за СДРІЮУ	КОДИ	
			2018	01 01
			20572069	

Звіт про фінансові результати (Звіт про сукупний дохід)
за Рік 2017 р.

Форма N2 Код за ДКУД 1801003

I. ФІНАНСОВІ РЕЗУЛЬТАТИ

Стаття	Код рядка	За звітний період	За аналогічний період попереднього року
I	2	3	4
Чистий дохід від реалізації продукції (товарів, робіт, послуг)	2000	3 870 048	3 352 792
⁴ Чисті зароблені страхові премії	2010	-	-
премії підписані, валова сума	2011	-	-
премії, передані у перестрахування	2012	-	-
зміна резерву незароблених премій, валова сума	2013	-	-
зміна частки перестраховиків у резерві незароблених премій	2014	-	-
Собівартість реалізованої продукції (товарів, робіт, послуг)	2050	(1 350 288)	(1 094 049)
⁴ Чисті понесені збитки за страховими виплатами	2070	-	-
Валовий:			
прибуток	2090	2 519 760	2 258 743
збиток	2095	(-)	(-)
Дохід (витрати) від зміни у резервах довгострокових зобов'язань	2105	-	-
Дохід (витрати) від зміни інших страхових резервів	2110	-	-
зміна інших страхових резервів, валова сума	2111	-	-
зміна частки перестраховиків в інших страхових резервах	2112	-	-
Інші операційні доходи	2120	151 694	175 381
у тому числі:	2121	-	-
дохід від зміни вартості активів, які оцінюються за справедливою вартістю			
дохід від первісного визнання біологічних активів і сільськогосподарської продукції	2122	-	-
дохід від використання коштів, звільнених від оподаткування	2123	-	-
Адміністративні витрати	2130	(95 627)	(66 095)
Витрати на збут	2150	(5 504)	(1 805)
Інші операційні витрати	2180	(209 761)	(228 203)
у тому числі:	2181	-	-
витрати від зміни вартості активів, які оцінюються за справедливою вартістю			
витрати від первісного визнання біологічних активів і сільськогосподарської продукції	2182	-	-
Фінансовий результат від операційної діяльності:			
прибуток	2190	2 360 562	2 138 021
збиток	2195	(-)	(-)
Доход від участі в капіталі	2200	-	-
Інші фінансові доходи	2220	10 787	1 034
Інші доходи	2240	64 015	86 539
у тому числі:	2241	-	-
дохід від благодійної допомоги			
Фінансові витрати	2250	(283 270)	(388 803)
Втрати від участі в капіталі	2255	(-)	(-)
Інші витрати	2270	(37 803)	(140 052)
Прибуток (збиток) від впливу інфляції на монетарні статті	2275	-	-

Appendix A continuation

Продовження додатка 2

Фінансовий результат до оподаткування:			
прибуток	2290	2 114 291	1 696 739
збиток	2295	(-)	(-)
Витрати (дохід) з податку на прибуток	2300	(382 871)	(310 808)
Прибуток (збиток) від припиненої діяльності після оподаткування	2305	-	-
Чистий фінансовий результат:			
прибуток	2350	1 731 420	1 385 931
збиток	2355	(-)	(-)

II. СУКУПНИЙ ДОХІД

Стаття	Код рядка	За звітний період	За аналогічний період попереднього року
1	2	3	4
Дооцінка (уцінка) необоротних активів	2400	-	-
Дооцінка (уцінка) фінансових інструментів	2405	-	-
Накопичені курсові різниці	2410	-	-
Частка іншого сукупного доходу асоційованих та спільних підприємств	2415	-	-
Інший сукупний дохід	2445	-	-
Інший сукупний дохід до оподаткування	2450	-	-
Податок на прибуток, пов'язаний з іншим сукупним доходом	2455	-	-
Інший сукупний дохід після оподаткування	2460	-	-
Сукупний дохід (сума рядків 2350, 2355 та 2460)	2465	1 731 420	1 385 931

III. ЕЛЕМЕНТИ ОПЕРАЦІЙНИХ ВИТРАТ

Назва статті	Код рядка	За звітний період	За аналогічний період попереднього року
1	2	3	4
Матеріальні затрати	2500	232 883	228 594
Витрати на оплату праці	2505	578 318	423 343
Відрахування на соціальні заходи	2510	125 444	93 470
Амортизація	2515	350 675	309 257
Інші операційні витрати	2520	370 556	329 980
Разом	2550	1 657 876	1 384 644

IV. РОЗРАХУНОК ПОКАЗНИКІВ ПРИБУТКОВОСТІ АКЦІЙ

Назва статті	Код рядка	За звітний період	За аналогічний період попереднього року
1	2	3	4
Середньорічна кількість простих акцій	2600	-	-
Скоригована середньорічна кількість простих акцій	2605	-	-
Чистий прибуток (збиток) на одну просту акцію	2610	-	-
Скоригований чистий прибуток (збиток) на одну просту акцію	2615	-	-
Дивіденди на одну просту акцію	2650	-	-

Керівник



Рибікін Павло Борисович

Головний бухгалтер



Шаловенко Ганна Олександрівна

Financial statements in 2019

Додаток І
до Національного положення (стандарту)
бухгалтерського обліку І "Звітність звітності до фінансової звітності"

Підприємство	ДЕРЖАВНЕ ПІДПРИЄМСТВО "МІЖНАРОДНИЙ АЕРОПОРТ "БОРИСПІЛЬ"	Дата (рік, місяць, число)	КОДИ
Територія	КИЇВСЬКА	за ЄДРПОУ	2020 01 01
Організаційно-правова форма господарювання	Державне підприємство	за КОАТУУ	20572069
Вид економічної діяльності	Допоміжне обслуговування авіаційного транспорту	за КОПФГ	3220483201
Середня кількість працівників	4 443	за КВЕД	140
Адреса, телефон	БОРИСПІЛЬ-7, в. ГОРА, БОРИСПІЛЬСЬКИЙ РАЙОН, КИЇВСЬКА обл., 08360		52.23
Одиниця виміру: тис. грн. без десяткового знаку (окрім розділу IV Звіту про фінансові результати (Звіту про сукупний добуток) (форма №2), грошові показники якого виводяться з гривнях з копійками)		2817181	
Складено (зроблено позначку "V" у відповідній клітинці):			
за положеннями (стандартами) бухгалтерського обліку			V
за міжнародними стандартами фінансової звітності			

Баланс (Звіт про фінансовий стан)
на 31 грудня 2019 р.

Форма №1 Код за ДКУД 1801041

А К Т И В	Код рядка	На початок звітного періоду	На кінець звітного періоду
1	2	3	4
I. Необоротні активи			
Нематеріальні активи	1000	41 357	67 585
первісна вартість	1001	63 268	94 707
накопичена амортизація	1002	21 911	27 122
Незакінчені капітальні інвестиції	1005	-	-
Осередні засоби	1010	6 289 031	14 253 790
первісна вартість	1011	9 475 630	14 309 907
знос	1012	3 186 599	54 117
Інвестиційна нерухомість	1015	-	-
Підсказка вартість інвестиційної нерухомість	1016	-	-
Знос інвестиційної нерухомість	1017	-	-
Довгострокові біологічні активи	1020	-	-
Первісна вартість довгострокових біологічних активів	1021	-	-
Накопичена амортизація довгострокових біологічних активів	1022	-	-
Довгострокові фінансові інвестиції:			
які обліковуються за методом участі в капіталі інших підприємств	1030	-	-
інші фінансові інвестиції	1035	-	-
Довгострокова дебіторська заборгованість	1040	1 746	1 931
Відстрочені податкові активи	1045	58 193	-
Гудвіл	1050	-	-
Відстрочені аквізиторські витрати	1060	-	-
Залишок коштів у кооперованих страхових резервних фондах	1065	-	-
Інші необоротні активи	1090	-	-
Усього за розділом I	1095	6 390 327	14 325 306
II. Оборотні активи			
Залишки	1100	188 285	207 938
Виробничі запаси	1101	-	-
Незакінчене виробництво	1102	-	-
Готова продукція	1103	-	-
Товари	1104	-	-
Поточні біологічні активи	1110	-	-
Депозити переуступання	1115	-	-
Векселі одержані	1120	-	-
Дебіторська заборгованість за продукцію, товари, роботи, послуги	1125	733 603	1 283 102
Дебіторська заборгованість за розрахунками:			
за звичайним зв'язком			
з бюджетом	1130	179 574	50 487
у тому числі з податку на прибуток	1136	-	63 251
з бюджетом	1135	98 320	187 908
Дебіторська заборгованість за розрахунками з нарахованих доходів	1140	-	-
Дебіторська заборгованість за розрахунками із внутрішніх розрахунків	1145	-	-
Інші поточні дебіторська заборгованість	1155	-	-
Поточні фінансові інвестиції	1160	-	-
Гроші та їх еквіваленти	1165	410 388	292 633
Готівка	1166	-	-
Рахунки в банках	1167	-	-
Витрати майбутніх періодів	1170	-	-
Частина переуступання у страхових резервах	1180	-	-
у тому числі в:			
резервах довгострокових зобов'язань	1181	-	-
резервах збитків або резервах наявних збитків	1182	-	-
резервах акціонерних премій	1183	-	-

Appendix B continuation

інших страхових резервах	1184	-	-
Інші оборотні активи	1190	47 280	91 969
Усього за розділом II	1195	1 659 400	2 114 039
III. Необоротні активи, утримувані для продажу, та групи вибуття	1200	-	-
Баланс	1300	8 049 727	16 439 345

Пасиви	Код радян	На початок звітного періоду	На кінець звітного періоду
I	2	3	4
I. Власний капітал			
Зареєстрований (пайовий) капітал	1400	555 806	556 521
Внески до незареєстрованого статутного капіталу	1401	-	-
Капітал у дооцінках	1405	-	5 971 041
Додатковий капітал	1410	552 356	551 641
Емсійний дохід	1411	-	-
Накопичені курсові різниці	1412	-	-
Резервний капітал	1415	-	-
Нерозподілений прибуток (зонакритий збиток)	1420	4 407 402	5 302 134
Неоплачений капітал	1425	(-)	(-)
Включений капітал	1430	(-)	(-)
Інші резерви	1435	-	-
Усього за розділом I	1495	5 515 564	12 381 337
II. Довгострокові зобов'язання і забезпечення			
Відоточені податкові зобов'язання	1500	-	1 209 844
Пенсійні зобов'язання	1505	-	-
Довгострокові кредити банків	1510	1 624 536	2 094 562
Інші довгострокові зобов'язання	1515	-	2 353
Довгострокові забезпечення	1520	82 184	132 814
Довгострокові забезпечення втрат персоналу	1521	-	-
Цільове фінансування	1525	-	-
Вигідніша домового	1526	-	-
Страхові резерви	1530	-	-
у тому числі:	1531	-	-
резерв довгострокових зобов'язань			
резерв збитків або резерв наслідкових виплат	1532	-	-
резерв незароблених премій	1533	-	-
інші страхові резерви	1534	-	-
Інвестиційні контракти	1535	-	-
Призовий фонд	1540	-	-
Резерв на виплату джек-поту	1545	-	-
Усього за розділом II	1595	1 706 720	3 439 573
III. Поточні зобов'язання і забезпечення			
Короткострокові кредити банків	1600	250 636	157 328
Векселі видані	1605	-	-
Поточна кредиторська зборгованість за:			
довгостроковими зобов'язаннями	1610	-	-
товари, роботи, послуги	1615	327 700	276 105
розрахунками з бюджетом	1620	12 503	5 344
у тому числі з податку на прибуток	1621	8 964	-
розрахунками зі страхування	1625	-	-
розрахунками з оплати праці	1630	-	-
Поточна кредиторська зборгованість за одержаними позичками	1635	43 586	119 677
Поточна кредиторська зборгованість за розрахунками з учасниками	1640	193 018	39 981
Поточна кредиторська зборгованість із внутрішніх розрахунків	1645	-	-
Поточна кредиторська зборгованість за страховою діяльністю	1650	-	-
Поточні забезпечення	1660	-	-
Доходи майбутніх періодів	1665	-	-
Відоточені комісійні доходи від перестраховиків	1670	-	-
Інші поточні зобов'язання	1690	-	-
Усього за розділом III	1695	827 443	618 435
IV. Зобов'язання, пов'язані з необоротними активами, утримуваними для продажу, та групами вибуття	1700	-	-
V. Чиста вартість активів наддержавного пенсійного фонду	1800	-	-
Баланс	1900	8 049 727	16 439 345

Керівник

Рябіца Павло Борисович

Головний бухгалтер

Шилоппева Ганна Олександрівна

¹ Визначення в порядку, встановленому центральним органом виконавчої влади, що реалізує державну політику у сфері статистики.

Appendix B continuation

Підприємство	ДЕРЖАВНЕ ПІДПРИЄМСТВО "МІЖНАРОДНИЙ АЕРОПОРТ "БОРИСПІЛЬ"	Дата (рік, місяць, число)	КОДИ		
			2020	01	01
		за ЄДРПОУ	20572069		
	(наблюдателя)				
	Звіт про фінансові результати (Звіт про сукупний дохід)				
	за Рік 2019	р.			
		Форма N2 Код за ДКУД	1801003		
I. ФІНАНСОВІ РЕЗУЛЬТАТИ					
Статті	Код рядка	За звітний період	За аналогічний період попереднього року		
1	2	3	4		
Чистий дохід від реалізації продукції (товарів, робіт, послуг)	2000	4 476 477	4 300 151		
Чисті зароблені страхові премії	2010	-	-		
<i>премії підписані, валова сума</i>	2011	-	-		
<i>премії, передані у перестраховання</i>	2012	-	-		
<i>зміна резерву незароблених премій, валова сума</i>	2013	-	-		
<i>зміна частки перестраховиків у резерві незароблених премій</i>	2014	-	-		
Собівартість реалізованої продукції (товарів, робіт, послуг)	2050	(2 209 220)	(1 742 584)		
Чисті понесені збитки за страховими виплатами	2070	-	-		
Валовий:					
прибуток	2090	2 267 257	2 557 567		
збиток	2095	(-)	(-)		
Дохід (витрати) від зміни у резервах довгострокових зобов'язань	2105	-	-		
Дохід (витрати) від зміни інших страхових резервів	2110	-	-		
<i>зміна інших страхових резервів, валова сума</i>	2111	-	-		
<i>зміна частки перестраховиків в інших страхових резервах</i>	2112	-	-		
Інші операційні доходи	2120	79 097	52 969		
у тому числі:	2121	-	-		
<i>дохід від зміни вартості активів, які оцінюються за справедливою вартістю</i>					
<i>дохід від первісного визнання біологічних активів і сільськогосподарської продукції</i>	2122	-	-		
<i>дохід від використання коштів, вивільнених від оподаткування</i>	2123	-	-		
Адміністративні витрати	2130	(185 374)	(136 392)		
Витрати на збут	2150	(12 185)	(9 233)		
Інші операційні витрати	2180	(82 852)	(62 260)		
у тому числі:	2181	-	-		
<i>витрати від зміни вартості активів, які оцінюються за справедливою вартістю</i>					
<i>витрати від первісного визнання біологічних активів і сільськогосподарської продукції</i>	2182	-	-		
Фінансовий результат від операційної діяльності:					
прибуток	2190	2 065 943	2 402 651		
збиток	2195	(-)	(-)		
Доход від участі в капіталі	2200	-	-		
Інші фінансові доходи	2220	153 870	96 885		
Інші доходи	2240	36 486	3 960		
у тому числі:	2241	-	-		
<i>дохід від благодійної допомоги</i>					
Фінансові витрати	2250	(238 333)	(250 076)		
Втрати від участі в капіталі	2255	(-)	(-)		
Інші витрати	2270	(121 945)	(23 638)		
Прибуток (збиток) від впливу інфляції на монетарні статті	2275	-	-		

Appendix B continuation

Продовження додатка 2

Фінансовий результат до оподаткування:			
прибуток	2290	1 896 021	2 229 782
збиток	2295	(-)	(-)
Витрати (дохід) з податку на прибуток	2300	(363 160)	(421 888)
Прибуток (збиток) від припиненої діяльності після оподаткування	2305	-	-
Чистий фінансовий результат:			
прибуток	2350	1 532 861	1 807 894
збиток	2355	(-)	(-)

II. СУКУПНИЙ ДОХІД

Стаття	Код рядка	За звітний період	За аналогічний період попереднього року
1	2	3	4
Дооцінка (уцінка) необоротних активів	2400	5 971 041	-
Дооцінка (уцінка) фінансових інструментів	2405	-	-
Накопичені курсові різниці	2410	-	-
Частка іншого сукупного доходу асоційованих та спільних підприємств	2415	-	-
Інший сукупний дохід	2445	(10 712)	(8 016)
Інший сукупний дохід до оподаткування	2450	5 960 329	(8 016)
Податок на прибуток, пов'язаний з іншим сукупним доходом	2455	-	-
Інший сукупний дохід після оподаткування	2460	5 960 329	(8 016)
Сукупний дохід (сума рядків 2350, 2355 та 2460)	2465	7 493 190	1 799 878

III. ЕЛЕМЕНТИ ОПЕРАЦІЙНИХ ВИТРАТ

Назва статті	Код рядка	За звітний період	За аналогічний період попереднього року
1	2	3	4
Матеріальні затрати	2500	352 777	390 307
Витрати на оплату праці	2505	1 114 654	774 780
Відрахування на соціальні заходи	2510	237 585	164 255
Амортизація	2515	370 260	319 267
Інші операційні витрати	2520	414 355	301 860
Разом	2550	2 489 631	1 950 469

IV. РОЗРАХУНОК ПОКАЗНИКІВ ПРИБУТКОВОСТІ АКЦІЙ

Назва статті	Код рядка	За звітний період	За аналогічний період попереднього року
1	2	3	4
Середньорічна кількість простих акцій	2600	-	-
Скоригована середньорічна кількість простих акцій	2605	-	-
Чистий прибуток (збиток) на одну просту акцію	2610	-	-
Скоригований чистий прибуток (збиток) на одну просту акцію	2615	-	-
Дивіденди на одну просту акцію	2650	-	-

Керівник

Рябікін Павло Борисович

Головний бухгалтер

Шилова Ганна Олександрівна



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