

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE**

**SIMON KUZNETS KHARKIV NATIONAL UNIVERSITY OF ECONOMICS**

**FINANCIAL ASPECTS OF DEVELOPING  
A BUSINESS IDEA AND STARTING A BUSINESS**

**Guidelines to practical tasks  
for Bachelor's (first) degree  
students of all specialities**

**Kharkiv  
S. Kuznets KhNUE  
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*Самостійне електронне текстове мережеве видання*

**Financial** Aspects of Developing a Business Idea and Starting  
F54 a Business [Electronic resource] : guidelines to practical tasks for Bachelor's  
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The main issues of the topics which are studied according to the plan of lectures on the academic discipline, practical tasks and guidelines to them are provided. Tasks for individual work, questions for self-assessment and topics for writing essays are offered.

For Bachelor's (first) degree students of all specialities.

**UDC 338.24:658 (07.034)**

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## Introduction

In the current conditions, it is becoming increasingly important to solve the problems of starting domestic businesses in an unstable economy. Of great importance are the theoretical aspects and practical recommendations for the formation of the idea of business, organization and setting up one's own business, as well as choosing a form of doing business, generating start-up capital for business, applying the basics of financial calculations and identifying the sources of additional funds. In this regard, the process of creating an idea and setting up your own business requires deep knowledge of the theory and practice of decision making in the field of business strategy justification, choice of the areas and forms of doing business; and the search for ways to improve relationships in the financial sphere in the conditions of market transformation of the economy is not only actual, but it is also an important task of theoretical and practical significance.

The purpose of these guidelines is the formation of students' theoretical knowledge and practical skills in the field of business organization, the formation of theoretical and methodological basis necessary for the use of financial instruments, developing the ability to evaluate the effectiveness of business ideas, to analyze the current market situation observed in the country, to do financial calculations in order to choose the most effective way to raise capital.

The tasks of the guidelines are:

mastering the basic principles of organizing and implementing one's own business at micro- and macro-levels;

applying methodological approaches to the analysis of the expediency of attracting additional borrowed funds in their own business project taking into account the risk factor;

mastering the skills in self-assessment of financial efficiency of implementation of business ideas with the use of computer equipment and software-mathematical complexes.

The academic discipline "Financial Aspects of Developing a Business Idea and Starting a Business" studies the tools of economic justification and decision making in the system of starting one's own business taking into account the uncertainty of the environment.

The object of the academic discipline is the organization of one's own business.

The subject of the academic discipline is the theoretical and methodological bases of financial activity of business entities setting up their own business.

As a result of studying the academic discipline students are expected to form the necessary competences with the following outcomes:

Competences	Outcomes
<p>Understanding and ability to critically comprehend the conceptual foundations of economic theory that relate to the financial aspects of starting your own business, summarize the principles and patterns of business functioning and development</p>	<p>The ability to identify the nature and main forms of doing business in the activities of economic entities and in the economy of the country;</p> <p>to identify the main objects and subjects of modern business, analyze the interaction between the subjects of economic relations and take into account the peculiarities of their functioning;</p> <p>to determine the essence of financial instruments, to characterize current trends and prospects of development of certain types of business</p>
<p>The ability to use theoretical and methodological tools of financial, economic, mathematical, statistical, legal and other sciences to diagnose the state of financial systems</p>	<p>The ability to evaluate the feasibility of financing real investment projects, the value of assets using different approaches;</p> <p>to characterize innovation and the innovation process, prove the need for financing such areas of activity, identify the objects of innovation, taking into account the features of venture financing;</p> <p>to analyze the legal framework for attracting investments, determine the factors of investment activity; to analyze peculiarities of activity of financial and credit institutions;</p> <p>to conduct a comprehensive assessment of the effectiveness of the investment project;</p> <p>to identify sources of financing your own business and calculate their required size, carry out procedures for optimization of the structure of financial resources</p>
<p>The ability to justify, make professional decisions in the field of finance and take responsibility for them</p>	<p>The ability to develop the structure of the business idea of the project and evaluate the feasibility of financing the project, given the uncertainty and risk factor;</p> <p>to classify business projects, determine the stages of project implementation</p>

## The individual plan of student's work

The student's work on practical tasks takes place in the classroom according to the plan given in Table 1.

Table 1

### The individual plan of student's work on practical tasks

Topic	Forms and types of education	Forms of evaluation
1	2	3
<b>Content module 1</b>		
<b>A business idea. Organizing and starting your own business</b>		
<i>Topic 1</i> Starting your own business	Questions for discussion: 1.1. Modern models of effective business. 1.2. Business type clustering. 1.3. Analysis of the degree of market saturation of a certain type of business. Problem solving. Presentation of individual tasks	Active participation in classroom activities. Consideration of the prepared materials in the classroom
<i>Topic 2</i> Which business is more profitable? Benefit assessment of a business idea	Questions for discussion: 2.1. Active income ideas to earn extra money. 2.2. Passive income ideas for building wealth. 2.3. Best business ideas for newbie entrepreneurs. Problem solving	Active participation in classroom activities
<i>Topic 3</i> Creating a new product and defining a business idea	Questions for discussion: 3.1. Finding sources and generating ideas. 3.2. Positive image of the company. 3.3. Life stages of a new product. 3.4. Market launch strategy for a new product. Problem solving	Active participation in classroom activities
<i>Topic 4</i> Costs and production value	Carrying out practical tasks for the calculation of costs associated with the production of goods. Determination and justification of the price of goods or services	Active participation in classroom activities
<i>Topic 5</i> The fundamentals of financial calculations	Implementation of practical tasks for increasing and discounting capital in determining its value	Active participation in classroom activities
<i>Topic 6</i> Forms of raising capital	Performance of practical tasks to determine the cost of the loan, the execution of the loan repayment schedule	Active participation in classroom activities

Table 1 (the end)

1	2	3
<b>Content module 2</b> <b>Starting capital and basics of financial calculations</b>		
<i>Topic 7</i> Starting a business as a form of investment project realization	Solving practical problems to determine the features of the use of investments, the use of methods for analyzing the effectiveness of investments	Active participation in classroom activities
<i>Topic 8</i> An innovative form of investment	Questions for discussion: 8.1. Economic essence of innovation and the innovation process. 8.2. Objects and subjects of innovative activity. 8.3. Financing of innovative activity. Problem solving. Presentation of individual tasks	Active participation in classroom activities. Consideration of the prepared materials in the classroom
<i>Topic 9</i> Financing of the investment process	Carrying out practical tasks to determine the definition and optimization of the cost of investment resources	Active participation in classroom activities
<i>Topic 10</i> Selling property	Performance of the task on the topic "Objectives of the assessment of the value of property. The subject of valuation and the factors influencing its value". Presentation of individual tasks	Active participation in classroom activities. Consideration of the prepared materials in the classroom

The student's practical work is provided with a system of teaching aids designed for the study of the academic discipline. The aids are located on the S. Kuznets KhNUE site of personal educational systems [23]. For each topic, the students can find tasks for practical classes with guidelines to them as well as other additional materials on the academic discipline.

# Content module 1. A business idea. Organizing and starting your own business

## Topic 1. Starting your own business

1.1. Modern models of effective business.

1.2. Business type clustering.

1.3. Analysis of the degree of market saturation of a certain type of business.

### Practical tasks

**Task 1.1.** Expand the essence of the following business models (Table 2).

Table 2

### The essence of typical business models

Type of business model	Explanation
One-for-one	
Freemium	
Quid pro quo	
Franchise	
Electronic commerce	
Supermarket	

**Task 1.2.** Fill in Table 3 of the main conceptual categories of the business model "Supermarket".

Table 3

### Business model characteristics

Characteristic	Content
1	2
Focus of the business model	
The purpose of the business model	

Table 3 (the end)

1	2
Business model objectives	
Business model functions	
Examples of organizations using this business model	

**Task 1.3.** Describe the types of business models and draw conclusions (Table 4).

Table 4

### Characteristics of business model types

Type of business model	Definition	Tasks	Goal	Author
Razor blade				
Long tail				
Brick-and-Mortar				
Licensing				

**Task 1.4.** To expand the conceptual apparatus of the implementation of the processes of creating an idea and starting a business, solve the crossword puzzle.

#### Horizontal lines:

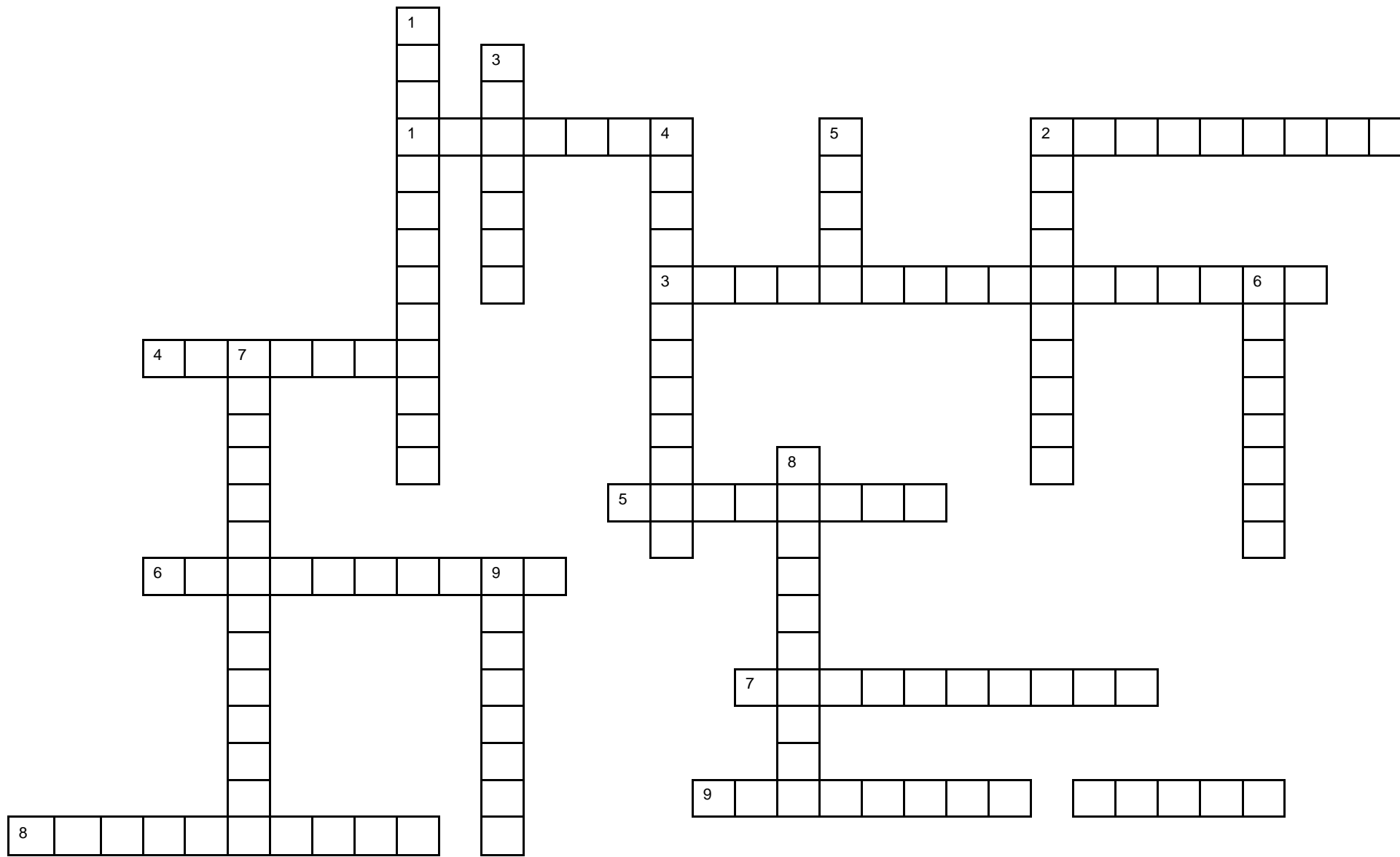
1. This term translated from French means money. In the economic literature, it is defined as a set of economic relations that arise as a result of the use, formation or distribution of funds.

2. An individual or business that purchases another company's goods or services.

3. The process of setting up a business. Self-supporting activities carried out at their own risk, aiming to make a profit from the ownership of property, the sale of goods, the performance of works or the provision of services.



6



4. A critical component of running a business from day to day and financing its future growth. It can include cash or other assets introduced into a business by the owners.

5. An organization or an enterprising entity engaged in commercial, industrial or professional activities.

6. A for-profit business started and run by an entrepreneur. It is a company or business.

7. An idea that has been transformed into practical reality. This word comes from a Latin verb that means to renew.

8. A person, business, team or organization that rivals with you or your company.

9. A conceptual description of entrepreneurial activity (two words).

### **Vertical lines:**

1. A measure of an organization's profit relative to its expenses. A relative indicator of the business implementation efficiency.

2. One of the directions of entrepreneurship.

3. An advantage or profit gained from something.

4. An individual who creates a new business, bearing most of the risks and enjoying most of the rewards.

5. The importance or worth of something. The amount of money that can be received for something.

6. A person that allocates capital with the expectation of a future financial return (profit) or gaining an advantage (interest).

7. The type of entrepreneur whose goal is to provide the "universal good", and the idea is to destroy life for the better.

8. High-quality characteristics of a business idea that ensures the superiority of its predecessor and serves the goal better and more accurately.

9. This word is derived from the Greek words *strat(os)* (meaning army) and *agein* (meaning to lead/move). A general direction set for the company and its various components to achieve a desired state in the future.

### **Questions for self-assessment**

1. The essence and basic forms of doing business.

2. The process of forming a business model.

3. The main components of a business model.

4. Main business areas and purpose.

5. Current trends and prospects for the development of certain types of business.
6. Consumer demand and consumer expectations.
7. Main trends of development of small and medium business.

### **Essay topics**

1. Pareto's law: the essence, the basic principles and the most famous examples.
2. The long tail concept: key features, real-life business examples.
3. The razor and blade business model (Lock-in): the essence, the basic principles and the most famous examples.
4. What are unicorn companies? Top 10 companies in the world. Ukrainian unicorn companies. Dead unicorn.

**Recommended reading:** [4; 7; 9; 12; 19].

## **Topic 2. Which business is more profitable? Benefit assessment of a business idea**

- 2.1. Business according to income sources.
- 2.2. Analyze and evaluate your own capabilities.

### **Practical tasks**

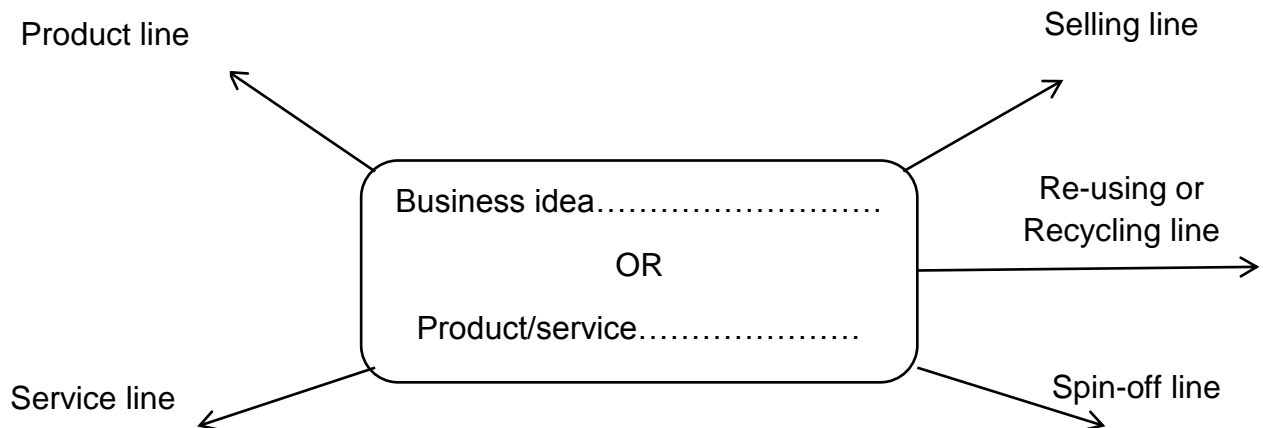
**Task 2.1.** Determine the types of earnings for the implementation of business ideas (passive/active income) give their characteristics (Table 5).

Table 5

### **The types of earnings**

The type of income	The type of earnings (passive/active)	Characteristics
Profit income		
Earned income		
Rental income		
Dividend income		
Royalty income		
Interest income		

**Task 2.2.** Try using structured brainstorming and create a utility chart of your business idea or product/service. Use the diagram (Fig. 1).

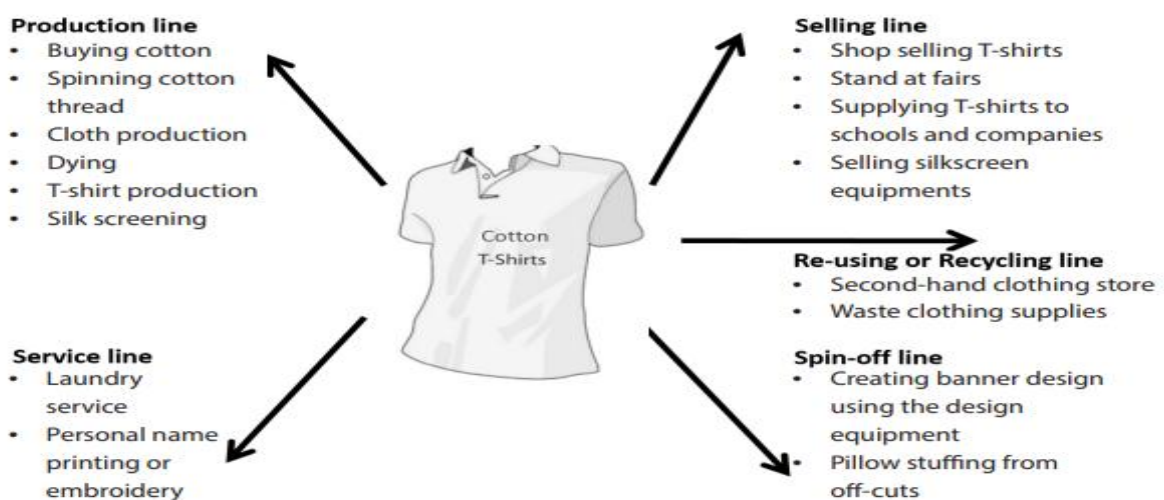


**Fig. 1. The diagram of the usefulness of a business idea, product or service**

**Guidelines to task 2.2**

*Structured brainstorming* is when you think of the different processes that are involved in the operation of a particular business and the goods/services that can be offered with respect to those processes.

Use the diagram in Fig. 1. Write the product and related business field in the central box. Then start brainstorming for each production line, selling line, re-using or recycling line, spin-off line and service line. Use the example of creating a product usefulness chart shown in Fig. 2.



**Fig. 2. The example of creating product usefulness [21, p. 45]**

**Task 2.3.** Develop and present your own business ideas in the form of an idea list (Table 6).

Table 6

**An idea list of my own business idea [21, p. 24]**

My business idea _____
• Which need will my business fulfill? _____
_____
• What good/service will I provide? _____
_____
• To whom will I sell? _____
_____
• How will I sell my service? _____
_____
• How much will my business depend upon and impact the environment? _____
_____

**Questions for self-assessment**

1. Active and passive income.
2. Income from trading activities.
3. Income from production activities.
4. Income from investment and credit activities.
5. Proceeds from the sale of property and intellectual rights (property).
6. Income from exchange rate differences of foreign currency funds and securities.
7. E-commerce.
8. Small project or large scale production.
9. Assessment of one's own professional opportunities.
10. Determining the amount of potential income.

## Essay topics

1. Active income ideas to earn extra money.
2. Passive income ideas for building wealth.
3. Best business ideas for newbie entrepreneurs.

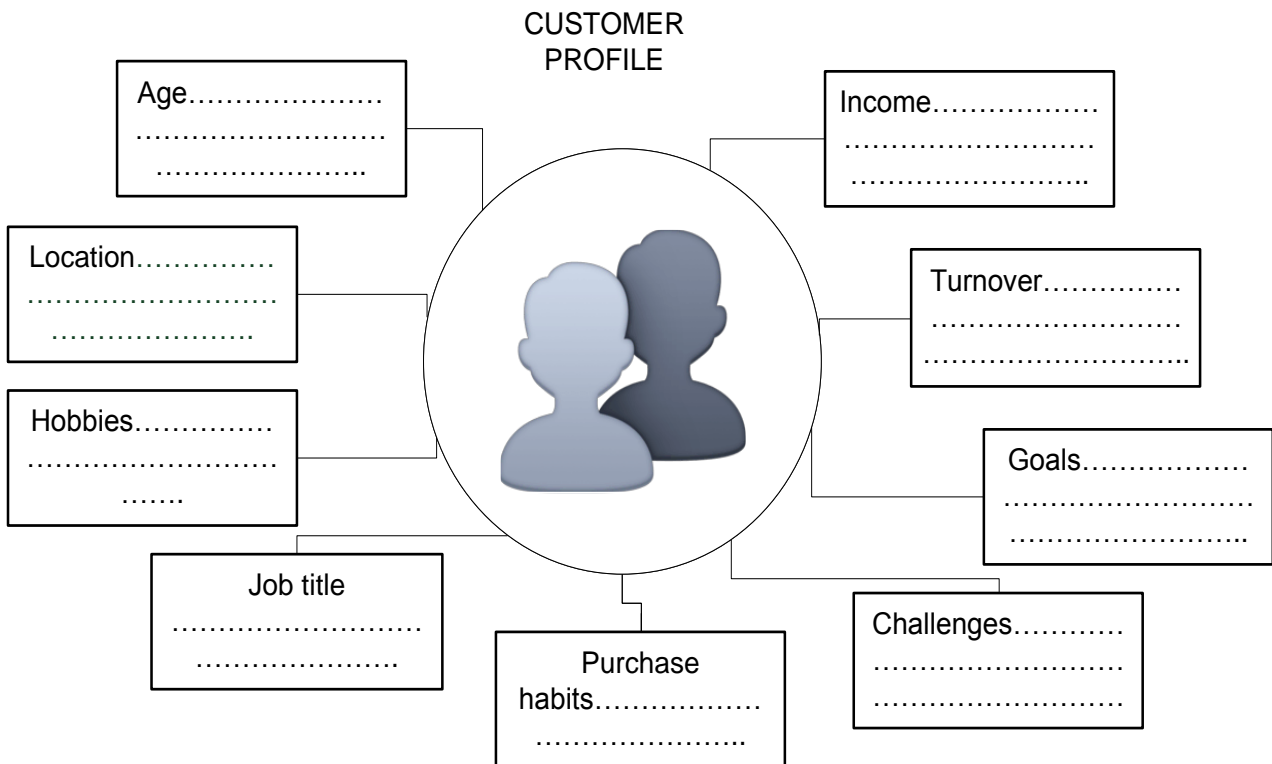
**Recommended reading:** [1; 5; 17; 18].

## Topic 3. Creating a new product and defining a business idea

- 3.1. Finding sources and generating ideas.
- 3.2. Life stages of a new product.
- 3.3. Market launch strategy for a product.

## Practical tasks

**Task 3.1.** Create a customer profile – potential consumption of your product/service (Fig. 3). A customer profile tells you everything about the people you want to bring onto your customer list.



**Fig. 3. A customer profile – potential consumption of your product/service**

**Task 3.2.** Come up with a unique name for your product. Develop a unique product design. Create a corporate identity or come up with a slogan.

**Guidelines to task 3.2**

*The role of your product name.* Your product name should just sound cool, its primary job is to guide your ideal customer to buy it, by showing them why it is the right choice for them.

The name of your product should also instill confidence in your brand. This is accomplished with consistency. If all of your product names sound like iPhone, iPad, iTunes, and you suddenly launch a new music service called "Streamy", it's going to sound random and could potentially cause your customers to lose trust in the brand.

Lastly, your product name should help your brand to generate buzz. You want your name to be the one that turns generic items into something specific. Think of brands that have made a mark. How many of us ask for a Kleenex, even if we're reaching for a generic brand of facial tissue?

*Questions to consider before choosing a product name.* Should your product name be long or short? What's your product's value? Who's your target audience? What products do they buy? Would your customers be more receptive to a real word or a word you made up? Should your product name evoke an emotion? Which one? Does your product name sound a lot like your competitors'?

Table 7 gives tips for successful product naming.

Table 7

**The tips for successful product naming**

The tips	Explanations
1	2
Be descriptive	The first place most people start when they have to name a product is to simply create a name that describes what the product does
Use real words with a twist	Words don't have to be used literally in a product name. They can be suggestive
Add a prefix or suffix	You can turn a common word into a product name simply by adding a prefix or suffix to it. Apple uses this product naming technique all the time with the iPhone or iPad

Table 7 (the end)

1	2
Create a compound word	Since so many brand and product names have already been trademarked and the associated domain names have already been registered, it's very common these days for product names to be compound words made by putting two words together to form an entirely new brand or product name
Make up a word	One way to ensure your product name is unique is to make up a word
Change spelling	Products like Trix, Kix, Fantastik, and Liquid-Plumr use real words that are misspelled. It's creative and helps when the name you want is already trademarked or the related domain names are taken
Tweak and blend words	When a single word or a compound word won't do, you can tweak and blend words to create a brand or product name. For example, NyQuil is a tweak and blend of night and tranquil. Pictionary is a tweak and blend of picture and dictionary
Use a place or person's name	<p>The Clark Bar was named after its creator, David L. Clark. The George Foreman Grill was named after its celebrity endorser. However, use caution when including a place or person's name in your product name.</p> <p>A day may come when you want to expand out of that geographic area or the person whose name you used in the product name might leave to work for a competitor or in another industry, or worse, become part of a salacious scandal. Make sure your product name can withstand these types of changes</p>
Create an acronym or use initials or numbers	Acronyms and initials are short, but they don't say much on their own. Therefore, you need to exercise caution when you use an acronym or initials in your product name. It typically takes longer to develop brand recognition and comprehension with a name filled with numbers and letters that is difficult to remember
Use a verb	You can use a verb as your product name (think Bounce dryer sheets) or you can turn a word used in your product name into a verb



### **Questions for self-assessment**

1. Methods of finding ideas for your business and your own product.
2. Description and development of the project idea and definition of general directions of use of the potential product (service).
3. Difference of your own goods from competing counterparts.
4. Developing a new product idea.
5. Determination of factors affecting the product life cycle.
6. Analysis of market opportunities and market environment.
7. Developing a strategy for market introduction of a potential product (service) within a business project.

### **Essay topics**

1. Creating a brand legend.
2. Positive image of a company.
3. Market launch strategy for a new product.

**Recommended reading:** [5; 9; 18; 19].

## **Topic 4. Costs and production value**

- 4.1. Expenses according to the type of economic activity.
- 4.2. Costs associated with the production of goods.
- 4.3. Cost of production.

### **Practical tasks**

**Task 4.1.** The cost price of a product is 4000 UAH per unit. The minimum profitability acceptable for the manufacturer is 20 %. The value added tax rate is 20 %. The excise rate is 20 %. Determine the minimum acceptable selling price for the item.

**Task 4.2.** The cost of production is 405 UAH. Sales price with the VAT is 700 UAH; the VAT is 20 %; the excise tax is 15 %. Determine the structure of the selling price of the product.

Price structure is the main elements included in the price (cost price, rate of return, VAT, excise tax).

**Task 4.3.** What is the structure of the selling price if its level with VAT is equal to 650 UAH at a VAT rate of 20 %, excise tax of 5 % and the cost price of 450 UAH?

**Task 4.4.** The cost of production is 120 UAH; the VAT rate is 20 %; the excise tax is 30 %; the possible level of the selling price is 400 UAH. Determine the profitability of this type of product.

### ***Guidelines to tasks 4.1 – 4.4***

Cost-plus-profit pricing assumes production costs and the desired margin. This method allows companies to keep profit, and it is easy to apply when calculating prices for a large number of products.

1. Determine the manufacturer's price:

$$\text{Profit margin} = \text{Cost price} \times \text{Profit rate.} \quad (1)$$

$$\text{Net price} = \text{Cost price} + \text{Profit margin.} \quad (2)$$

*Example.* Suppose, the fixed costs for a company, are \$900 and the variables are \$1 per unit. The company expects to sell 100 units. The total cost would be \$900 + \$100 = \$1,000, so the price of each item would be \$10. Next, they want to set a 30 % markup. So the price would be  $1.3 \times 10 = \$13$  and the profit would be  $3 \times 100 = \$300$ .

*Clarification.*

*Net:* the net price is the price excluding VAT. It is also called "ex VAT" or "Net", in other words, the total before the VAT is added.

*Gross:* the Gross price is the price including VAT. It is also called "inc VAT", in other words, the amount after VAT is added.

2. Calculate the sales price including VAT.

Adding VAT.

Adding VAT to an amount is very easy. All you need to do is multiply your net amount by your ratio.

For example, if you are selling a chair for \$150 Net and need to add 20 % VAT to get the Gross price including VAT, you use:

$$150 \times 1.20 = \$180.$$

So the Gross amount including VAT is \$180.

Removing VAT.

Taking VAT off an amount is just as easy (providing you have a calculator). All you do is divide your Gross amount by your ratio.

For example, if you bought a table for a Gross price of £180 including 20 % VAT and want to work out the Net price excluding VAT, you do this:

$$180 : 1.20 = \$150.$$

So the Net amount excluding VAT is \$150.

Finding the VAT amount from a Gross amount.

Sometimes you have a total Gross amount and need to find the amount of VAT it contains. The simplest method is to find the Net amount (see *Removing VAT* above) and take the Net away from the Gross.

Going back to our example, if you bought a table for a Gross price of £180 including 20 % VAT and want to find the amount of VAT included in the price, you do this:

$$180 : 1.20 = \$150 \quad \text{and then} \quad 180 - 150 = \$30.$$

So the amount of VAT in this case is \$30.

3. Calculate the excise tax (duty). To calculate the excise tax amount, multiply the product purchase price by the excise tax percentage. For example, a new car buyer in Maine pays a millage rate of 0.024. If the car costs \$18,000, multiply \$18,000 by 0.024 to get the excise tax amount of \$432.

Price structure is the main elements included in the price (cost price, rate of return, VAT, excise tax).

**Task 4.5.** The retail price of a unit of goods is UAH 10 000; the trade allowance is 20 %, the excise tax is 30 %, the VAT rate is 20 %. Determine the amount of excise duty payable to the budget by the manufacturer from the sale of a unit of goods and its share in the retail price.

**Task 4.6.** The maximum trade allowance of the goods is 20 %. What is the share of the trade discount in the retail price?

**Task 4.7.** A company produces children's clothing. The selling price of one product is 100 UAH, including the cost of one product, 50 UAH. At what price will the population buy these products if:

- 1) the limit of the trade allowance is 10 %;
- 2) the limit of the trade allowance is 10 %, but an additional restriction is introduced – the profitability limit of 20 %;

3) the company sells products with a specified standard of profitability, but directly from the manufacturing factory without the services of a trade organization.

This commodity item is not subject to indirect taxes due to the increased social value.

**Task 4.8.** The cost of a product is 100 UAH; the acceptable profitability is 10 %; the VAT is 20 %; the maximum possible level of retail price is 150 UAH. Determine the percentage of the trade discount and trade allowance.

### ***Guidelines to tasks 4.5 – 4.8***

*The retail price* is the final price that a good is sold to customers for, those being the end users or consumers.

*A trade discount* is the amount by which a manufacturer reduces the retail price of a product when it sells to a reseller, rather than to the end customer.

*A trade allowance* is a special type of discount that we give as a producer to our wholesalers or retailers in exchange for them promoting and selling our products. In other words, we want to kind of get the wholesalers and retailers on our side to help promote and move our products.

$$\text{Retail price} = \text{Production price} + \text{VAT} + \text{Excise tax} + \text{Trade allowance.} \quad (3)$$

The retail price consists of the purchase price of the goods from the supplier and the trade discount (allowance):

$$\text{Retail price} = \text{Purchase price} + \text{Trade discount (allowance).} \quad (4)$$

$$\text{Purchase price} = \text{Cost Price} + \text{Profit margin} + \text{VAT.} \quad (5)$$

### **Questions for self-assessment**

1. Nature and types of costs. External and internal costs. Economic costs. Costs associated with normal activities.
2. Financial expenses. Expenses from participation in capital.
3. Operating expenses. Other expenses.

4. The essence of production costs. Total costs and unit costs. Costs depending on the type of products.
5. Direct and indirect costs. Current costs. Long-term costs.
6. The essence of the cost of production.
7. Budgeting and costing.
8. Grouping of costs in the calculation of the cost of production.

**Recommended reading:** [1; 5; 21].

## **Content module 2**

### **Starting capital and basics of financial calculations**

#### **Topic 5. The fundamentals of financial calculations**

- 5.1. The theory of value for money in time.
- 5.2. Capital raising and discounting using a simple interest rate.
- 5.3. Discounting using a compound interest rate.
- 5.4. Increasing capital using a compound interest scheme.

#### **Practical tasks**

**Task 5.1.** A client opened a deposit account in a bank in the amount of 3 500 UAH at 24 % per annum. What amount will be on the bank account in a year?

Since the financial transaction is one year, the interest accrual scheme does not matter. The result will be the same.

**Task 5.2.** A client opened a deposit account in a bank in the amount of 3 500 UAH at 24 % per annum. What amount will be in the bank account in 2 years?

Since the financial transaction lasts more than one year, a complex interest accrual scheme should be used.

**Task 5.3.** You are a creditor. A client has applied to you for a loan in the amount of 5 000 UAH. For this, after 2 years, he undertakes to return you 6 500 UAH.

Is it profitable for you if banks offer 18 % per annum on deposits?

**Task 5.4.** What amount should be placed on a deposit account in a bank in order to get 4 500 UAH back in half a year? The interest rate is 15.5 % of the simple interest.

**Task 5.5.** A deposit of 20 000 UAH has been placed in a bank for 4 years at 15 % per annum. Find the accrued amount if compound interest was charged on the initial capital annually.

**Task 5.6.** For the work performed, an entrepreneur should receive 65 000 UAH. The customer is unable to pay at the moment and proposes to postpone the payment period for 2 years, after which he undertakes to pay 75 000 UAH. Is it profitable for the entrepreneur if the compound interest rate is 15 % per annum?

Find the amount from the future position and the amount from the present position.

**Task 5.7.** A entrepreneur received a loan from a bank in the amount of 25 000 UAH for a period of 6 years on the following conditions: in the first year the interest rate is 10 % per annum, in the next two years the margin is set at 0.4 % and in the following years the margin is 0.7 %.

Find the amount that the entrepreneur must return to the bank at the end of the loan term.

**Task 5.8.** A bank provided a loan in the amount of 10 000 UAH for 30 months at 30 % per annum on the basis of annual interest.

What is the amount to be returned to the bank at the end of the term?

Calculate using a compound interest scheme and using a mixed scheme. Compare your result.

### ***Guidelines to tasks 5.1 – 5.8***

There are two methods (processes) for estimating the value of money over time: compounding and discounting.

Value increase (compounding) is the process of reducing the present value of money (financial instrument) to its value in the upcoming period.

*Compounding.* Compounding is the technique used to evaluate the ability of an asset to grow with reinvestment of interest earned during the investment period. With a simple interest scheme the following formula is used:

$$FV = PV \times (1 + r \times n), \quad (6)$$

where FV is the future value of money;

PV is the present value of money;

r is the rate of interest;

n is the period of a financial transaction.

With a compound interest scheme formula (7) is used:

$$FV = PV \times (1 + r)^n. \quad (7)$$

*Discounting* is the process of determining the present value of a payment or a stream of payments that is to be received in the future. Given the time value of money, money is worth more today than it would be worth tomorrow. Discounting is the primary factor used in pricing a stream of tomorrow's cash flows. With a simple interest scheme formula (8) is used:

$$PV = \frac{FV}{(1 + r \times n)}. \quad (8)$$

With a compound interest scheme formula (9) is used:

$$PV = \frac{FV}{(1 + r)^n}. \quad (9)$$

Interest accrual schemes:

*a simple interest scheme* involves the invariance of the base from which accrual occurs;

*a compound interest scheme* is such a scheme where interest is calculated on the ever growing base, taking into account the interest accrued in prior periods ("interest on interest").

**Task 5.9.** What interest rate should the bank have to offer, in order to use it, to be able to double its capital in 3 years?

Since the financial transaction lasts more than one year, a compound interest accrual scheme should be used.

**Task 5.10.** How much time is needed to double the capital when accruing simple (compound) interest in the amount of 20 % per annum?

**Task 5.11.** What income do you get when you invest a capital of 10 000 UAH with accruing compound interest at a rate of 14 % per annum for 3 years?

**Task 5.12.** An investor would like to increase his capital from 2 000 UAH within 5 years up to 7 000 UAH. What annual nominal interest rate should the bank offer when calculating compound interest every six months?

### ***Guidelines to tasks 5.9 – 5.12***

The indicators for determining the duration of the financial transaction and the size of the interest rate are as follows:

*a simple interest scheme:*

$$n = \frac{FV - PV}{PV \times r}, \quad (10)$$

$$r = \frac{FV - PV}{PV \times n}; \quad (11)$$

*a compound interest scheme:*

$$n = \frac{\ln \frac{FV}{PV}}{\ln(1 + r)}, \quad (12)$$

$$r = \sqrt[n]{\frac{FV}{PV}} - 1. \quad (13)$$

**Task 5.13.** A bank has invested money in the amount of 5 000 UAH for two years with semi-annual interest at 20 % per annum.

Determine the amount in the account by the end of the biennium.

**Task 5.14.** Under the conditions of the previous example, analyze how the amount of capital will change by the end of the biennium if interest is calculated on a quarterly basis.



**Task 5.15.** From what capital can you get 4 000 UAH in 5 years by increasing compound interest at a rate of 12 % per annum, if the increase is carried out: a) annually; b) quarterly?

**Task 5.16.** It is necessary to find the future value of 5 500 UAH, if the first 3 years this sum accrues on the basis of 12 % annual compound interest; the next 2 years compound interest once a quarter based on 20 % per annum is used; and the last 69 days the sum accrues with simple interest based on 15 % per annum. There are 365 days in a year.

### **Guidelines to tasks 5.10 – 5.16**

Intra-annual interest accrual.

In the practice of financial agreements, there are often situations in which capitalization of interest occurs several times a year – every six months, quarterly, monthly, and even daily.

This may occur when concluding deposit agreements, obtaining a bank loan, in joint-stock companies when paying dividends, etc.

The formula used in this case is:

$$FV = PV \times \left(1 + \frac{r}{m}\right)^{n \times m}, \quad (14)$$

where  $m$  is interest rate per year;  $m = 2, 4, 12, 365!$

The more often the interest is calculated during the year, the greater the future cost of money becomes.

The formula for determining the future value of funds at a given variable rate is:

$$FV = PV \times \prod_{i=1}^k (1 + r)^n. \quad (15)$$

### **Questions for self-assessment**

1. Present and future cost of capital. The need and value of money over time.
2. Factors influencing the change in the value of money over time.
3. Extension and discounting processes.
4. The concept of percentages, their types and classification. The interest accrual period.

5. The future value of money, its economic content.
6. The scheme of simple interest, its content and features of use. Determining the cost of capital in the case of annual interest accrual.
7. The concept of discounting simple interest. The current value of capital.
8. The concept of compound interest. The schemes of simple and compound interest, the fundamental difference between them.
9. The need to estimate future revenues from the current point of view.

**Recommended reading:** [2; 3; 10].

## **Topic 6. Forms of raising capital**

- 6.1. The necessity and the essence of credit.
- 6.2. Forms and types of credit. Credit classification criteria.
- 6.3. Bank credit.
- 6.4. Economic limits of credit.

### **Practical tasks**

**Task 6.1.** If a loan of 20 000 UAH is received for 5 years, payment for redemption of the credit will amount to 4 000 UAH. Interest will accrue on the outstanding balance of debt. Use a classic loan repayment scheme.

**Task 6.2.** If a loan of 20 000 UAH is received for 5 years, payment for redemption of the credit will amount to 4 000 UAH. Interest will accrue on the outstanding balance of debt. Use an annuity loan repayment scheme.

**Task 6.3.** A private corporation wishes to borrow 10.5 million UAH for the construction of a new building by issuing a twenty-year coupon bond at an annual percentage interest rate of 10 % to be paid semi-annually, i.e. 5 % per interest period of six months. The principal amount will be paid within 10 years in equal semi-annual payments.

### ***Guidelines to tasks 6.1 – 6.3***

There are classic and annuity loan repayment forms. What is the difference?

Loan payment (A) consists of two parts:

$$A = R + I, \quad (16)$$

where R is the body of the loan;  
I is percentage payment.

An annuity is essentially a loan, a multi-period investment that is paid back over a fixed (or perpetual, in the case of a perpetuity) period of time. The amount paid back over time is relative to the amount of time it takes to pay it back, the interest rate being applied, and the principal (when creating the annuity, this is the present value). To understand how to calculate an annuity, it's useful to understand the variables that impact the calculation.

With annuity (also known as an amortizing loan), you get the principal back in regular payments, stretched over the period of the loan. In this scenario, interest is calculated from the residual loan amount (total loan amount less principal repayments, according to the schedule).

The present value of an annuity can be calculated as follows:

$$PV = A \times \sum_{i=1}^k \frac{1 - (1 + r)^{-n}}{r}. \quad (17)$$

The future value of an annuity can be calculated as follows:

$$FV = A \times \sum_{i=1}^k \frac{(1 + r)^n - 1}{r}. \quad (18)$$

An example of the design of the loan repayment schedule using an annuity scheme is shown in Table 8.

Table 8

### The annuity debt repayment schedule

Period	Debt (PV)	Payment (A)	Body loan (R )	Interest (I) 20 %
1	20	6.7	2.7 = 6.7 - 4	4.0 = 20 × 0.2
2	17.3 = 20 - 2.7	6.7	3.2 = 6.7 - 3.5	3.5 = 17.3 × 0.2
3	14.1 = 17.3 - 3.2	6.7	3.9	2.8
4	10.2	6.7	4.6	2.0
5	5.6	6.7	5.6	1.1
Total		33.5	20.0	13.4

If you use the annuity scheme debt, the loan payment amount remains unchanged.

An example of the design of the loan repayment schedule based on the classical scheme is shown in Table 9.

Table 9

**The classical repayment schedule**

Period	Debt (PV)	Payment (A)	Body loan (R )	Interest (I) 20 %
1	20	8 = 4 + 4	4 = 20/5	4 = 20 × 0.2
2	16	7.2 = 4 + 3.2	4 = 20/5	3.2 = 16 × 0.2
3	12	6.4	4	2.4
4	8	5.6	4	1.6
5	4	4.8	4	0.8
Total		32	20	12

If you use debt according to the classical scheme, the amount of repayment of the principal remains unchanged.

**Task 6.4.** See how much extra you might pay on a 10 000 UAH credit card purchase with varying interest rates, depending on your payment amount each month.

*Directions.* Review each scenario and answer questions on how long it will take to pay the loan off and how much you will pay in finance charges. You can solve each problem using paper and pencil or the Cost of Credit calculator online tool. Use the Cost of Credit financial calculator [22].

Scenario 1. Purchase: 10 000 UAH on credit card for new sports equipment.

Monthly payment: minimum balance of 4 000 UAH.

Credit card APR (interest rate charged): 36 %.

How long will it take you to pay off?

How much will you pay in finance charges (interest fees)?

Scenario 2. Purchase: 10 000 UAH on credit card for a video game and downloadable content.

Monthly payment: 2 000 UAH.

Credit card APR (interest rate charged): 45 %.

How long will it take you to pay off?

How much will you pay in finance charges (interest fees)?

Scenario 3. Purchase: 10 000 UAH on credit card for clothes.

Monthly payment: 1 000 UAH.

Credit card APR (interest rate charged): 42 %.

How long will it take you to pay off?

How much will you pay in finance charges (interest fees)?

### **Questions for self-assessment**

1. Credit as a form of value movement on a reverse basis.
2. The main features of the loan. Subjects and objects of credit relations.
3. The features of credit in a market economy. The market of loan capital.
4. Debt capital and credit. Debt capital as a form of monetary capital.

The main features of loan capital.

5. The forms of credit, the advantages and disadvantages of each form. Types of credit. Characteristics of individual types of credit: commercial, consumer, state, international, banking.

6. Principles and methods of bank lending. The mechanism of bank lending.

7. Forms of collateral and insurance of bank loans.

8. The concept of credit limits, causes and consequences of breaching them.

9. Percentage of credit. Percentage, types, economic boundaries of movement and factors of change of interest rate.

10. Interest rate risk. Percentage in inflation.

### **Essay topics**

1. The essence of economic categories of money, banks, credit and their applied value.

2. Development of credit service, its advantages and disadvantages.

3. Alternative lending.

4. Loans for business development in Ukraine.

**Recommended reading:** [8; 11; 16; 22].

## **Topic 7. Starting a business as a form of the investment project realization**

7.1. The economic essence of investment.

7.2. Characteristics of investment objects.

7.3. Characteristics of investing entities.

## Practical tasks

**Task 7.1.** A company wants to know their net present value of the cash flow if they invest 100 000 UAH today. Their initial investment in the project is 80 000 UAH for 3 years of time, and they are expecting the rate of return to be 14 % yearly. Based on the available information, calculate the indicator of the net present value (NPV).

**Task 7.2.** To open a company for production of children's clothing, initial investments in the amount of \$40.8 thousand are needed. The projected amounts of cash flow for four years of the firm's work are planned at the level of \$15 thousand in the 1st year; \$19.5 thousand in the 2nd year; \$21 thousand in the 3rd and \$22.6 thousand in the 4th year.

Provide reasonable conclusions on the feasibility of implementing this project if the weighted average cost of the company's capital is 33 %.

**Task 7.3.** The PJSC "Anchor" has two alternative projects for the construction of a department for production of heat exchangers. Under the first project, capital investments amount to 1 000 thousand UAH, under the second one they make 900 thousand UAH.

The forecast cash receipts of the enterprise for five years of operation of the department during the implementation of the projects are shown in Table 10.

Table 10

### The projected cash receipts for projects (thousand UAH)

Years	1	2	3	4	5
1st project	-100	500	600	400	300
2nd project	250	300	700	400	-300

**Task 7.4.** The company's management is considering the possibility of expanding their production and has the opportunity to buy new equipment 84 900 UAH worth. The use of the equipment will increase the volume of production. This will lead to an increase in the net cash flow to 20 000 UAH over the next 10 years.

Determine the feasibility of implementing the investment project for the purchase of equipment. In 10 years, the equipment can be sold for 40 % of its original cost. The discount rate is 25 %.

### **Guidelines to tasks 7.1 – 7.4**

Implementation of a business idea is a project of capital investment for profit. Indicators of evaluation of the effectiveness of investment projects are also used to assess the effectiveness of doing business.

The indicators are net present value of the project (NPV), profitability index (PI), payback period (PP), internal rate of return on investment (IRR).

NPV is the sum of the present values of the cash inflows and outflows.

The formula for determining the net present value is:

$$NPV = \sum_{i=1}^k \frac{CF_i}{(1+r)^i} - IC, \quad (19)$$

where  $CF_i$  is the net cash flow;

$r$  is the discount rate which indicates the rate of change in the value of money over time. It can be calculated as the weighted average cost of capital;

$IC$  is the invested capital;

$i$  is the number of time periods.

### **Key points**

Because of the time value of money, cash inflows and outflows can only be compared at the same point in time.

NPV discounts each inflow and outflow to the present, and then sums them to see how the value of the inflows compares to the other.

A positive NPV means the investment is worthwhile; an NPV of 0 means the inflows equal the outflows; a negative NPV means the investment is not good for the investor.

### **Key terms**

A cash flow from investing activities is the cash that has been generated (or spent) on non-current assets that are intended to produce a profit in the future.

The cash inflow is the cash that is received by the investor.

The cash outflow is any cash that is spent or invested by the investor.

Every investment includes cash outflows and cash inflows. There is cash that is required to make the investment and (hopefully) the return.

In order to see whether the cash outflows are less than the cash inflows (i.e., the investment earns a positive return), the investor aggregates the cash flows. Since cash flows occur over a period of time, the investor knows that due to the time value of money, each cash flow has a certain value today. Thus, in order to sum the cash inflows and outflows, each cash flow must be discounted to a common point in time.

The sign of NPV can explain a lot about whether the investment is good or not:

if  $NPV > 0$ , the PV of the inflows is greater than the PV of the outflows. The money earned on the investment is worth more today than the costs, therefore, it is a good investment;

if  $NPV = 0$ , the PV of the inflows is equal to the PV of the outflows. There is no difference between the value of the money earned and the money invested;

if  $NPV < 0$ , the PV of the inflows is less than the PV of the outflows. The money earned on the investment is worth less today than the costs, therefore, it is a bad investment.

If the value of this indicator is positive, we make a decision on the effectiveness of the project. Other indicators will also confirm the result of the NPV calculation, so they are used for in-depth analysis.

### **Questions for self-assessment**

1. The economic essence of investment. Investment process and its stages.

2. The concept of investment objects. Real and financial investments, their main characteristic.

3. The concept of subjects of investment activity. Businesses as subjects of investment activity.

4. Financial institutions in the investment market. Banks, credit unions, pawnshops, leasing companies, trust companies, insurance companies, funded pension institutions, joint venture institutions.

**Recommended reading:** [10; 11; 14; 15].



## **Topic 8. An innovative form of investment**

- 8.1. The economic essence of investing and innovation process.
- 8.2. Objects and subjects of innovative activity.
- 8.3. Financing of innovative activity.

### **Individual tasks**

#### **Topics for presentations**

1. The features of functioning of the subjects of innovation and investment activities (business angels, business incubators, business accelerators, venture funds).
2. The sources of financing business ideas, their value in the modern market.
3. Crowdfunding as a technology to finance innovative projects: pros and cons.
4. The features of the implementation of the innovation format "a start-up".
5. Priority objects of investment in the modern market (Where to invest money to earn? 10 ways to invest your savings).
6. World-renowned fraudulent schemes and manias with financial investments of the 19th and 21st centuries (Examples of some of them are tulipomania; the South Sea Bubble, the Ponzi scheme, the 419 fraud, etc.).

#### **Questions for self-assessment**

1. The economic essence of innovation and innovation process. The concepts and types of innovation. Classification of innovations. Models of the innovation process.
2. The objects of innovation activity and their characteristics. The subjects of innovation and their characteristics.
3. The main goal of the state innovation policy, the basic principles of the state innovation policy.
4. Priority areas of state support for the enterprise innovation activity.
5. Financial support for innovation.
6. Venture financing. The types of venture financing, their features. Problems of development of venture financing in Ukraine.

**Recommended reading:** [6; 10; 14].

## Topic 9. Financing of the investment process

9.1. The characteristics of investment resources.

9.2. Methods of formation of investment resources.

9.3. Valuation of investment resources.

9.4. Methods for optimizing the structure of the sources of investment resources.

### Practical tasks

**Task 9.1.** Determine the cost of the equity. At the beginning of the year its value was \$10 000, at the end of the year in the conditions of business expansion, the value was \$12 000, and the amount of net profit in the reporting period was \$1 800.

**Task 9.2.** Choose the cheapest option of attracting additional resources through a bank loan if:

bank A offers an interest rate of 28 % per annum;

bank B sets the usage fee at 2.5 % per month;

bank C lends to small businesses on preferential terms and provides a 5 % discount on the 32 % interest rate.

**Task 9.3.** Determine the cost of raising capital through a bank loan if the annual interest rate is 36 %, and the one-time commission at its registration is 4 % of the total loan amount.

**Task 9.4.** Determine the total value of a bank loan if its amount is 15 000 UAH, the interest rate is 38 %, the commission at its registration is 1 500 UAH.

**Task 9.5.** Assess the cost of the entrepreneur's incurred expenses associated with raising capital from two sources:

source 1: the compound interest rate is 24 % accrued over 2 years per 10 000 UAH;

source 2: the rate of simple interest is 24 %, the loan amount is 10 000 UAH to be repaid after a year, and to be extended for another year on the same terms.

**Task 9.6.** Choose the best option to raise funds for a bank loan, if:  
bank A offers a rate of 28 % per annum, subject to a semi-annual accrual;  
bank B offers a rate of 26.5 % per annum, subject to a monthly accrual;  
bank C offers a rate of 29 % per annum, charged once a year.

**Task 9.7.** Choose the most attractive option for raising capital from the borrower's perspective:  
bank A provides a loan at 34 % per annum (no commission);  
bank B provides a loan on condition of 31 % (commission for its registration is 2.5 % of the capital amount).

### ***Guidelines to tasks 9.1 – 9.7***

Each product has its own value and it is determined by the cost of the value creation.

Money is no exception and also has its value.

The cost of capital is the price that the company pays to attract it from different sources.

The sources of capital formation are divided into internal and external ones.

Internal sources are equity capital (owners' money), undistributed profits, depreciation deductions, cost of the sale of assets, issue income.

*The cost of the equity* of an enterprise in the reporting period is determined by the formula:

$$\text{The cost of equity} = \frac{\text{Net profit}}{\text{The average annual amount of equity}} \times 100 \%. \quad (20)$$

External sources are long-term bank loans, bond placements, leasing, commercial loans. Borrowed resources have a distinctive feature – they are provided on a paid basis.

*The cost of a bank loan* is determined by the interest rate set by the bank as a payment for the use of the loan.

However, in addition to the interest on the loan at the moment of its registration, the bank can put forward additional conditions for getting it: impose costs on its design, set different conditions for accruing interest (their change over the loan term; the scheme and frequency of the interest accrual). Then, accordingly, the value of the borrowed capital will change.

A change in the cost of a loan with the inclusion of additional costs is calculated as follows:

$$\text{The cost of a bank loan} = \frac{\text{Loan interest rate} \times (1 - \text{income tax rate})}{1 - \text{the level of borrowing costs}}. \quad (21)$$

*The condition of the interest accrual scheme.* Differences in interest accrual schemes also change the value of money. While accruing of simple interest does not change their base of accrual, compound interest provides capitalization of the interest income.

*The condition for the frequency of interest accrual for a compound scheme.* The frequency of compounding is of primary importance in the cost of credit. And the more often it is charged, the greater its value. An indicator that helps to determine the effectiveness of capital raising in the conditions of variability in the frequency of interest is the effective rate.

The formula for determining the effective rate is:

$$r_e = \left(1 + \frac{r}{m}\right)^m - 1, \quad (22)$$

where  $r_e$  is the size of the effective rate;

$r$  is the size of the nominal tax rate;

$m$  is the frequency of interest accrual per year.

**Task 9.8.** To open a company, capital was attracted from internal and external sources in a 50/50 ratio. The required rate of return on equity capital is 17.8 %, borrowed capital is attracted at 25 % per annum. Determine the weighted average cost of the capital of the firm.

**Task 9.9.** Determine the weighted average cost of capital, provided that the total capital is 45 000 UAH, the amount of the equity capital is 37 000 UAH, the rate of return on the equity capital is 16.9 %, and part of the borrowed capital is attracted at 32.5 %.

**Task 9.10.** Determine the weighted average cost of capital, provided that the average annual amount of the equity capital is 79 000 UAH, the

amount of the net profit received in the reporting year is 16 500 UAH, the total capital of the company is 100 000 UAH, and the interest rate on the bank loan (due to which part of the capital is formed) is 28 %.

**Task 9.11.** Determine the weighted average cost of capital, provided that it is formed from three sources: equity in the amount of 90 000 UAH is used with a yield of 19 %; a bank loan in the amount of 25 000 UAH was issued at a rate of 30 % per annum, part of the capital was formed through leasing of equipment (an external source of capital attraction) in the amount of 45 000 UAH which requires interest payment in the amount of 27 % per annum.

### ***Guidelines to tasks 9.8 – 9.11***

Both equity and debt capital from various sources can be attracted for doing business. Then their value will be determined as the indicator of the weighted average cost of capital WACC that is the average interest rate for all sources of company financing.

The calculation takes into account the share of each source of funding in the total cost. The indicator characterizes the relative level of expenses of each source of financing and their number in the capital structure.

The formula for determining the weighted average cost of capital is:

$$WACC = k_d \times (1 - \text{tax}) \times \frac{D}{E + D} + k_e \times \frac{E}{E + D}, \quad (23)$$

where E is the equity of the enterprise;

E + D is the total capital value of the enterprise;

$k_e$  is the market rate of return on equity of the enterprise, %;

D is the borrowed capital;

$k_d$  is the market value of the borrowed capital, %;

tax is the income tax rate, %.

### **Questions for self-assessment**

1. The characteristics of investment resources. Forms of investment resources.
2. The principles of formation of investment resources.
3. The methods of formation of investment resources.

4. The sources of formation of investment resources.
5. Self-financing and sources of its financial resources.
6. A bank investment loan and ways to attract it.
7. Valuation of investment resources. Methods of valuation of equity, attracted and borrowed capital.
8. Calculation of the volume of investment resources of a real investment project.
9. The methods for optimizing the structure of investment resources.

**Recommended reading:** [10; 11; 14; 15].

## **Topic 10. Selling property**

- 10.1. Sale of property and valuation of property.
- 10.2. The main types of the property value.
- 10.3. The basics of calculating the value of real estate.

### **Practical tasks**

**Task 10.1.** Conduct analysis of the real estate market in Ukraine, identify the factors affecting the value of real estate in Ukraine, and determine the reasons for the growth in the value of residential real estate.

#### ***Guidelines to task 10.1***

One of the most difficult things about buying a rental property investment is to avoid getting emotionally involved. In a hot real estate market, it's easy to make the wrong decision when other home buyers are lined up ready to make an offer.

Successful real estate investors always say that money is made when the property is purchased, not when it's sold. That's because it's much easier to add value to a rental property than to try to turn a profit on a house that was overpriced.

Market analysis is typically used when a property is being purchased or sold. Real estate investors may use a real estate market analysis when considering an investment to determine its current as-is market value or gain a snapshot into the market as a whole in the property's area.

Commercial real estate market analysis. Unlike in residential real estate, values for commercial property are determined by the income produced or potentially produced in the given market, not necessarily by using comparable properties alone.

Just as with a residential market analysis, start your report by determining market conditions and looking at market trends. What is the current supply and demand for the specific property type, and how many projects are under construction or awaiting permitting approval? What are the average rental rates, occupancy, and vacancy rates for that sector in the market, and what is the average cap rate?

Next, confirm property features, including the number of rental units in the property, square footage, lot size, zoning, and property features. Then you'll want to run an income and expense report to determine the property's net operating income (NOI). If a property is underperforming or has high vacancy or isn't performing at all, look at average income and expenses in the market and run a pro forma income and expense report, which shows what the property could earn if it were improved.

The net operating income is multiplied by the average cap rate to find the likely sales price of the property. Most professional market analysis will include comparable properties for reference, but here, the value or sale price of the comparable property isn't the helpful information, but rather the cap rate at which it sold for.

**Task 10.2.** Conduct a comparative analysis of the methods of real estate valuation known to you.

### ***Guidelines to task 10.2***

Because real estate investment is typically not a short-term trade, analyzing the cash flow, and the subsequent rate of return, is critical to achieving the goal of making profitable investments.

To profit, investors must know how to value real estate and make educated guesses about how much profit each will make, whether through property appreciation, rental income, or both. Accurate real estate valuations can help investors make better decisions when it comes to buying and selling properties.

Equity valuation is typically conducted through two basic methodologies: absolute value and relative value. The same is true for real estate property valuation.

Discounting future net operating income (NOI) by the appropriate discount rate for real estate is similar to discounted cash flow (DCF) valuations for stock. Meanwhile, integrating the gross income multiplier model in real estate is comparable to relative value valuations with stocks.

The capitalization rate. Capitalization rate (or cap rate) is a real estate valuation measure used to compare different real estate investments. Although there are many variations, the cap rate is generally calculated as the ratio between the annual rental income produced by a real estate asset to its current market value. Most variations depended on the definition of the annual rental income and whether it is gross or net of annual costs, and whether the annual rental income is the actual amount received (initial yields), or the potential rental income that could be received if the asset was optimally rented (ERV yield).

The rate is calculated in a simple fashion as follows:

$$\text{Capitalization rate} = \text{Annual net operating income} / \text{Current value.} \quad (24)$$

Some investors may calculate the cap rate differently.

One of the most important assumptions a real estate investor makes when performing real estate valuations is to choose an appropriate capitalization rate, also known as the cap rate.

The capitalization rate is the required rate of return on real estate, net of value appreciation, or depreciation. Put simply, it is the rate applied to NOI to determine the present value of a property.

Add as conclusions:

Real estate valuation is a process that determines the economic value of a real estate investment.

The capitalization rate is a key metric for valuing an income-producing property.

Net operating income (NOI) measures an income-producing property's profitability before adding costs for financing and taxes.

The two key real estate valuation methods include discounting future NOI and the gross income multiplier model.



On the downside, because the property markets are less liquid and transparent than the stock market, it can be difficult to obtain the necessary information.

**Task 10.3.** Match the terms and definitions (Table 11).

Table 11

**Definition of valuation of property**

Concept	Definition
Value	a real estate valuation measure used to compare different real estate investments
Real estate income	real property that consists of land and improvements, which include buildings
Retail	the monetary, material, or assessed worth of an asset, good, or service
Capitalization rate	profit made from real estate
Real estate	process of selling consumer goods or services to customers through multiple channels of distribution to earn a profit
Commercial property	real estate that is used for business activities
Farmland	typically, land devoted to agriculture

**Questions for self-assessment**

1. What is real estate? What is the difference between personal and commercial real estate?
2. What is the name of the income from the use of real estate?
3. Explain how you make money by investing in real estate.
4. Why should an investor evaluate the value of real estate?
5. What is the difference between commercial real estate and agricultural land? Can land be classified as real estate?
6. Approaches to real estate appraisal.
7. Real estate appraisal methods.
8. Who is the main user of information and property values?
9. What are the features of real estate appraisal in Ukraine?

**Essay topics**

1. Evolution of approaches to real estate appraisal.
2. The features of assessment of agricultural land.
3. Development of investment in real estate in Ukraine.
4. The reasons for the rise in property prices in Ukraine.

**Recommended reading:** [10; 13; 20].

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НАВЧАЛЬНЕ ВИДАННЯ

# **ФІНАНСОВІ АСПЕКТИ СТВОРЕННЯ ІДЕЇ ТА ВІДКРИТТЯ БІЗНЕСУ**

**Методичні рекомендації  
до практичних завдань  
для студентів усіх спеціальностей  
першого (бакалаврського) рівня  
(англ. мовою)**

*Самостійне електронне текстове мережеве видання*

Укладачі: **Алексєєнко Інна Іллівна**  
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Коректор *З. В. Зобова*

Подано основні питання тем, що вивчаються за планом лекцій з навчальної дисципліни, практичні завдання та методичні рекомендації до них. Запропоновано завдання для індивідуальної роботи, питання для самооцінювання та теми для написання есе.

Рекомендовано для студентів першого (бакалаврського) рівня всіх спеціальностей.

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